



Engineering and Related Services for LA 44: Pelican Point Roundabout and Widen

Contract Number: 4400028434
Sigma Consulting Group, Inc.
(A Wagoner Company)
Date: February 6, 2024



Louisiana Department of Transportation and Development
1201 Capitol Access Road
Baton Rouge, LA 70802

RE: Contract No. 4400028434 - LA 44: Pelican Point Roundabout and Widen

Dear Members of the Selection Committee:

Sigma Consulting Group Southeast, Inc., A Waggoner Company, (Sigma) is excited for the opportunity to work with the Louisiana Department of Transportation and Development (DOTD) on the LA 44: Pelican Point project. We understand that the LA 44 corridor is experiencing rapid growth with new developments such as the Conway mixed-use community and the Edenborne Connector linking the Lamar Dixon Expo Center to LA 44, and that the roadway infrastructure must adapt to meet the traffic demand and safety requirements.

Sigma's staff has provided engineering design and construction plan development for DOTD for the past 35+ years. We understand the typical DOTD Plan Delivery Process, submittals, reviews, QA/QC requirements, design manuals, and final deliverables. Our Project Manager Robert J. "Robbie" Lear, PE, LSI, is a resident of Ascension Parish and has first-hand knowledge of the LA 44 corridor. His professional experience with roundabout and intersection design, coupled with his local knowledge makes Sigma a great partner for DOTD.

We have reviewed the Roundabout Justification Report for the LA 44 Corridor Study (I-10 to LA 22). The proposed roundabout improvement at the Pelican Point subdivision entrance along with the widening along LA 44 are similar in scope to the LA 408 Hooper Road Widening from Blackwater Rd. to Joor Rd. designed by Sigma for East Baton Rouge by way of a DOTD project.

Sigma provides a design consultant with an unparalleled depth of hands-on experience, technical expertise, and capability to perform the services needed within budget and on time. Our Approach and Methodology builds from our extensive experience and is tailored to

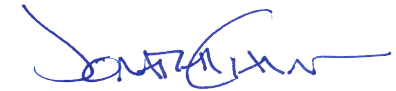
successfully deliver this project in a timely manner. Sigma will handle all road and bridge design requirements in-house, which makes communication and coordination between disciplines seamless and efficient. We have added the expertise of Vectura Consulting Services, LLC (Vectura), a Baton Rouge certified Disadvantaged Business Enterprise (DBE) firm, to handle any traffic engineering and TMP Level 3 development requirements.

Thank you for your consideration of our services. Should you have any questions or need further information, please do not hesitate to contact Robbie at 225.298.0800 or at rlear@sigmacg.com at your convenience.

Sincerely,



Robert J. Lear, Jr., PE, LSI
Vice President
Sigma Consulting Group, Inc.
(A Waggoner Company)



Jonathan Charbonnet
Vice President
Waggoner Engineering, Inc.

Sigma Consulting Group Southeast, Inc. is our legal name that will be used for all contractual matters. The Sigma Consulting Group, Inc. name is trademarked by us and is synonymous with Sigma Consulting Group Southeast, Inc. We are registered with the Louisiana Secretary of State and LAPELS under the Sigma Consulting Group Southeast, Inc. name; however, we are registered in Sam.gov under the Sigma Consulting Group, Inc. name (Unique Entity ID: VJK9D3Z2JWX8). These entities are one in the same.

Sections 1-13

Engineering and Related Services for LA 44: Pelican Point Roundabout and Widen

Panama Canal Bridge (RN 610246)

Slab Span Bridge
Length: 100 feet
Width: 40 feet clear
Skew: 30 degrees
Year Built: 2008
USGS Stream Gage
073802220




DOTD FORM: 24-102

Contract No. 4400028432

PROPOSAL TO PROVIDE CONSULTANT SERVICES

Prime consultant shall complete the DOTD Form 24-102 without altering the Form's text; however, the instruction and/or guidance for Sections 12 through 23 can be removed but do not remove Section title and number.

ANY CONSULTANT FAILING TO SUBMIT ANY OF THE INFORMATION REQUIRED ON THE DOTD FORM 24-102, OR PROVIDING INACCURATE INFORMATION ON THE DOTD FORM 24-102, MAY BE CONSIDERED NON-RESPONSIVE.

1. Contract Name as shown in the advertisement	LA 44: Pelican Point Roundabout and Widen Route: LA 44
2. Contract Number(s) as shown in advertisement	4400028434
3. State Project Number(s), if shown in the advertisement	H.015568.5
4. Prime consultant name (name must match as registered with the Louisiana Secretary of State where such registration is required by law)	Sigma Consulting Group Southeast, Inc. (A Waggoner Company) 
5. Prime consultant license number (as registered with the Louisiana Professional Engineering and Land Surveying Board (LAPELS) if registration is required under Louisiana law)	EF.0001410 VF.0000302
6. Prime consultant mailing address	10305 Airline Highway, Baton Rouge, LA 70816
7. Prime consultant physical address (existing or to be established, if location is used as an evaluation criteria)	10305 Airline Highway, Baton Rouge, LA 70816
8. Name, title, phone number, and email address of prime consultant's contract point of contact	Robert J. Lear, Jr., PE, LSI - Vice President 225.298.0800 rlear@sigmacg.com
9. Name, title, phone number, and email address of the official with signing authority for this proposal	Robert J. Lear, Jr., PE, LSI - Vice President 225.298.0800 rlear@sigmacg.com

10. This is to certify that all information contained herein is accurate and true, and that the team presently has sufficient staff to perform these services within the designated time frame. By submitting this proposal, proposer certifies that it is not engaged in a boycott of Israel and it will, for the duration of its contract obligations, refrain from a boycott of Israel. Proposer also certifies and agrees that the following information is correct: In preparing its response, the proposer has considered all proposals submitted from qualified, potential subcontractors and suppliers, and has not, in the solicitation, selection, or commercial treatment of any subcontractor or supplier, refused to transact or terminated business activities, or taken other actions intended to limit commercial relations, with a person or entity that is engaging in commercial transactions in Israel or Israeli-controlled territories, with the specific intent to accomplish a boycott or divestment of Israel. The proposer also has not retaliated against any person or other entity for reporting such refusal, termination, or commercially limiting actions. DOTD reserves the right to reject the response of the bidder or proposer if this certification is subsequently determined to be false, and to terminate any contract awarded based on such a false response.



Signature above shall be the same person listed in Section 9

February 6, 2024

Date

11. If a Disadvantaged Business Enterprise (DBE) goal has been set for this advertisement, indicate which firm(s) will be used to meet the DBE goal and each firm(s)' percentage.

<u>Firm(s):</u> Vectura Consulting Services, LLC	<u>Firm(s) %:</u> 6%
Total DBE Participation:	6%

12. Past Performance Evaluation Discipline Table:

Past Performance Evaluation Discipline(s)	% of Overall Contract	Sigma Consulting Group, Inc. (A Waggoner Company)	Vectura Consulting Services, LLC	Each Discipline must total to 100%
Road	80%	100%	-	100%
Bridge	14%	100%	-	100%
Traffic	6%	-	100%	100%
Identify the percentage of work for the overall contract to be performed by the prime consultant and each sub-consultant.				
Percent of Contract	100%	94%	6%	100%

Sigma has the firm and staff experience necessary to perform almost all of the task requirements for this project. This leads to efficient communication and project delivery for DOTD, which generally results in overall cost savings for the department.

13. Firm Size:

Firm Name	DOTD Job Classification	Number of Personnel Committed to this Contract	Total Number of Personnel Available in this DOTD Job Classification (if needed)
Sigma Consulting Group, Inc. (A Waggoner Company)	Principal	1	1
	Supervisor Engineer	3	5
	Engineer	6	8
	Engineer Intern	4	4
	CADD Operator	3	3
	CADD Technician	3	3
	Surveyor	0	2
	Instrument Man	0	1
	Rodman	0	1
	Party Chief	0	1
	Senior Technician	0	1
	Clerical	2	4
Vectura Consulting Services, LLC	Supervisor Engineer	2	2
	Engineer	3	3
	Engineer Intern	1	2
	Inspector	0	2
	Supervisor - Other	0	1

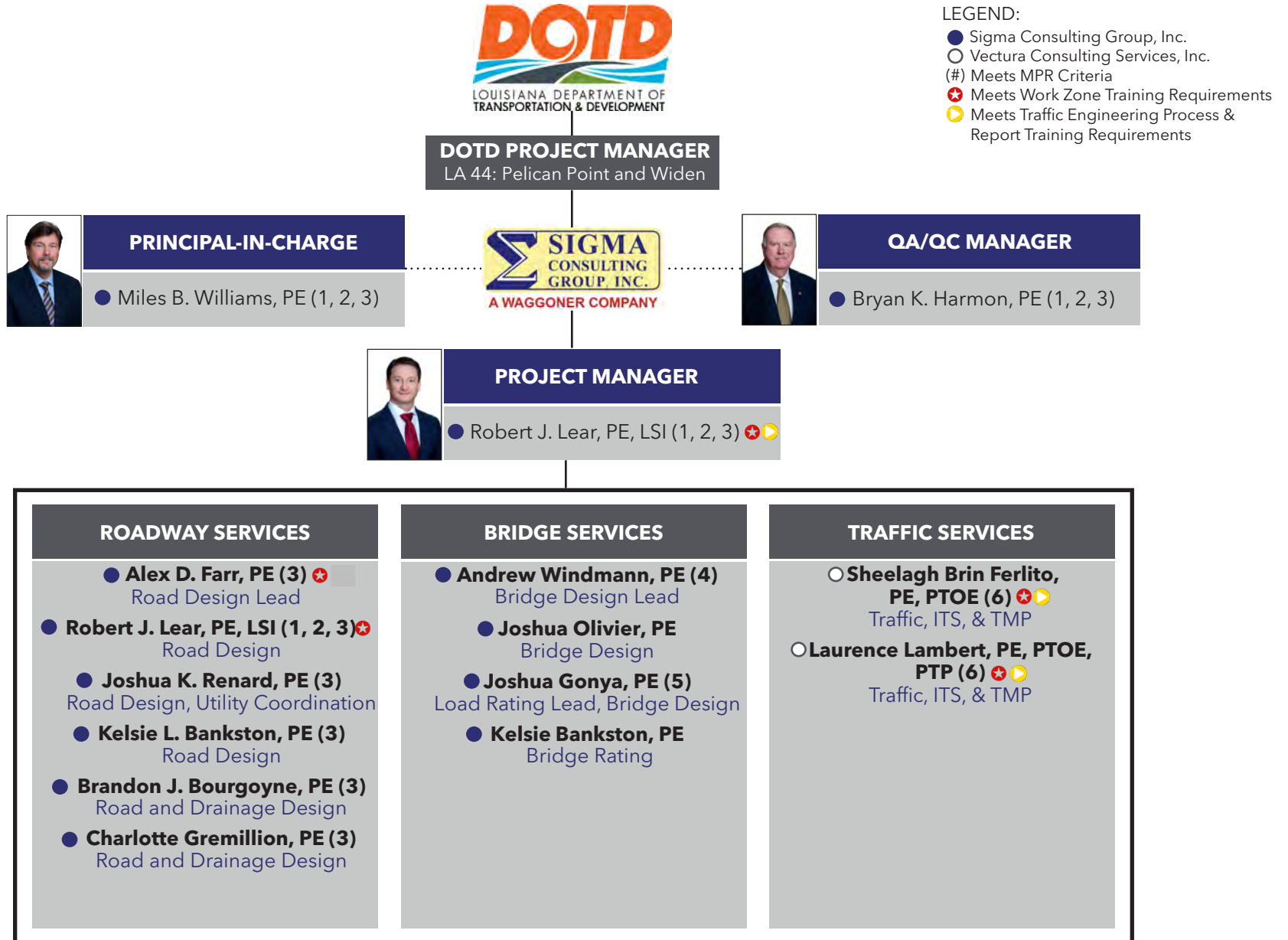
Sections 14 - 16

Engineering and Related Services for LA 44: Pelican Point Roundabout and Widen

LA 44 between Pelican Point Subdivision entrance (left) and Pelican Crossing Subdivision (right). A new roundabout will be installed at the Pelican Point Subdivision intersection with LA 44.



14. Organizational Chart:




15. Minimum Personnel Requirements:

MPR No. Do not insert wording from ad	Personnel being used to meet the MPR (individual(s) may not satisfy more than one MPR unless specifically allowed by Attachment B of the advertisement)	Firm employed by	Type of license and discipline meeting MPR/certification and number (ex: PE # - Civil)	State of license	License/certification expiration date
1	Miles B. Williams, PE Robert J. Lear, Jr., PE, LSI Bryan K. Harmon, PE	Sigma Consulting Group, Inc.	PE No. 23094 - Civil PE No. 29394 - Civil PE No. 22595 - Civil	LA LA LA	3/31/2024 3/31/2025 3/31/2025
2	Miles B. Williams, PE Robert J. Lear, Jr., PE, LSI Bryan K. Harmon, PE	Sigma Consulting Group, Inc.	PE No. 23094 - Civil PE No. 29394 - Civil PE No. 22595 - Civil	LA LA LA	3/31/2024 3/31/2025 3/31/2025
3	Miles B. Williams, PE Robert J. Lear, Jr., PE, LSI Bryan K. Harmon, PE Alex D. Farr, PE Joshua K. Renard, PE Kelsie L. Bankston, PE Brandon J. Bourgoyne, PE Charlotte Gremillion, PE	Sigma Consulting Group, Inc.	PE No. 23094 - Civil PE No. 29394 - Civil PE No. 22595 - Civil PE No. 40426 - Civil PE No. 36015 - Civil PE No. 47126 - Civil PE No. 48025 - Civil PE No. 47930 - Civil	LA LA LA LA LA LA LA LA	3/31/2024 3/31/2025 3/31/2025 9/30/2024 3/31/2025 3/31/2025 9/30/2025 9/30/2024
4	Andrew Windmann, PE	Sigma Consulting Group, Inc.	PE No. 39042 - Civil	LA	9/30/2024
5	Joshua Gonya, PE	Sigma Consulting Group, Inc.	PE No. 40859 - Civil	LA	9/30/2024
6	Sheelagh Brin Ferlito, PE, PTOE Laurence Lambert, PE, PTOE, PTP	Vectura Consulting Services, LLC	PE No. 25383 - Civil PE No. 29901 - Civil	LA LA	9/30/2025 3/31/2024

16. Staff Experience:

Firm Name	Name	Project Responsibilities
Sigma Consulting Group, Inc. (A Waggoner Company)	Robert J. Lear, Jr., PE, LSI	Project Manager, Road Design
	Miles B. Williams, PE	Principal-in-Charge
	Bryan K. Harmon, PE	QA/QC Manager
	Alex D. Farr, PE	Road Design Lead, MOT
	Andrew Windmann, PE	Bridge Design Lead
	Joshua Gonya, PE	Bridge Rating Lead, Bridge Design
	Joshua K. Renard, PE	Road Design, Utility Coordination
	Kelsie L. Bankston, PE	Road Design, Bridge Rating
	Joshua Olivier, PE	Bridge Design
	Brandon J. Bourgoyne, PE	Road & Drainage Design
	Charlotte Gremillion, PE	Road Design
Vectura Consulting Services, LLC	Sheelagh Brin Ferlito, PE, PTOE	Traffic & TMP
	Laurence Lucius Lambert, II, PE, PTOE, PTP	Traffic & TMP

Firm Employed by: Sigma Consulting Group, Inc. (A Waggoner Company)

	Name	Robert "Robbie" J. Lear, Jr., PE, LSI	Years of relevant experience with this employer	25
	Title	Vice President, Sr. Project Manager	Years of relevant experience with other employer(s)	3
	Degree(s)/Years/Specialization	BS/1996/Civil Engineering	Discipline	Civil
	Active registration number/state/expiration date	PE.29394/LA/03-31-2025 LSI.00508/LA/9-30-2025	Year Registered	PE - 2001 LSI - 2005

Contract role(s)/brief description of responsibilities	Project Manager, Road Design	Meets MPRs No. 1, 2, 3
--	------------------------------	------------------------

Responsibilities: Robbie will be the project manager and serve as a senior road design engineer LA 44 Pelican Point Roundabout and Widen project. He will use his 20+ years of DOTD project design and management experience to ensure that the project is engineered to meet the goals of DOTD.

Experience dates (mm/yy-mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
01/23 - Ongoing	CMAR Contract for Hooper Road Widening (LA 3034 - LA 37), East Baton Rouge Parish, LA (H.009300) Robbie is the project manager and senior road design engineer for the urban widening of Hooper Road from Sullivan Road to Greenwell Springs Road. The project includes three miles of urban roadway, a new bridge over Beaver Bayou, and two roundabouts .
01/14 - 12/16	LA 347: Roundabout at Melancon Rd, St. Martin Parish, LA (H.009456) Robbie was the project manager, engineer of record, and survey task manager for the design of a new four-legged single lane roundabout . He was responsible for the horizontal and vertical geometric design, typical sections, suggested sequencing, permanent pavement markings, permanent signing, quantities, and opinion of probable costs for this project. He also was responsible for establishing design required right of way lines, utility coordination and right-of-way (R/W) map preparation. All deliverables were prepared using InRoads Survey, CADconform, and Microstation software.
01/14 - 07/16	LA342: Roundabout at LA 724, Lafayette Parish, LA (H.002163) Robbie served as the project manager and road design engineer for a four-legged single-lane roundabout in Lafayette Parish. He was responsible for the horizontal and vertical geometric design, typical sections, suggested sequencing, permanent pavement markings, permanent signing, quantities, and opinion of probable costs for this project. He also supervised all survey and subsurface utility engineering (SUE) efforts. Utility locates included QL-D and QL-C locates. Robbie coordinated with District 03 for utility relocation requirements and needs.

Robbie Lear resume continued

<p>6/13 - 7/22</p>	<p>I-10: LA 347 to Atchafalaya Floodway Bridge, St. Martin Parish, LA (H.003014) Robbie was the project manager and lead roadway engineer for pavement replacement for 2.7 miles of I-10 and intersection safety improvements near Henderson, LA. He was responsible for all roadway design components of the project including typical sections, plan profiles, geometric details, sequencing, level 4 TMP, and cross sections. The project scope also included two roundabouts at the ramp termini points and intersection improvements to LA352/LA347. Robbie was the road design engineer for these one-lane roundabouts and intersection improvements.</p>
<p>10/20 - Ongoing</p>	<p>I-10: LA 415 to Essen Lane on I-10/I-12 (CMAR), E. Baton Rouge Parish, LA (H.004100) Robbie is a roadway design engineer for the widening of I-10, interchange improvements, and surface street improvements through Baton Rouge. His responsibilities include urban roadway, roundabout, freeway, and interchange geometrics, profile design, typical sections, design reports, establishing required right of way, and plan preparation using Microstation and Inroads. The project includes converting signalized interchange ramp intersections to roundabouts at Washington Street and Dalrymple Drive. Robbie is the senior road design engineer for these three roundabouts.</p>
<p>9/22 - Ongoing</p>	<p>LA 1088: Sault and Trinity Roundabouts, St. Tammany Parish, LA (H.010116) Robbie is the senior road design engineer for the design of two new two-lane roundabouts and urban roadway widening of LA 1088 in St. Tammany Parish. He is responsible for roundabout layout, horizontal and vertical geometrics, and mentoring staff for plan production.</p>
<p>04/12 - 12/18</p>	<p>I-10: LA 30 to LA 22, Ascension Parish, LA (H.009276) Robbie managed the survey mapping and SUE locates during the topographic phase of this interstate widening project. This included coordinating with surveying and SUE subconsultants and preparation of the final topographic map and DTM. He also served as a project engineer for QA/QC reviews of the sequence of construction and construction access plans.</p>
<p>01/13 - Ongoing</p>	<p>I-49 South: US 90 and Ambassador Caffery Interchange, Lafayette Parish, (H.002868) Robbie serves as a roadway design engineer for a new interchange on future I-49 at Ambassador Caffery Parkway in Lafayette, LA. Robbie is responsible for the horizontal and vertical geometric design and road plan production of a four-tiered interchange, eight lane mainline, two-lane one way frontage roads, and u-turns.</p>

Firm Employed by: Sigma Consulting Group, Inc. (A Waggoner Company)



Name	Miles B. Williams, PE	Years of relevant experience with this employer	33
Title	President	Years of relevant experience with other employer(s)	8
Degree(s)/Years/Specialization	BS/1983/Civil Engineering	Discipline	Civil
Active registration number/state/expiration date	PE.23094/LA/03-31-2024	Year Registered	1988

Contract role(s)/brief description of responsibilities	Principal-in-Charge	Meets MPRs 1, 2, 3
--	---------------------	--------------------


Responsibilities: Miles will serve as the principal-in-charge for the LA 44: Pelican Point Roundabout and Widen project. He will provide contract management and project oversight. Additionally, he will use his 40+ years of experience to ensure the best design practices are used and a successful project delivery.

Experience dates (mm/yy-mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
01/14 - 12/16	LA 347: Roundabout at Melancon Rd, St. Martin Parish, LA (H.009456) Miles was the principal-in-charge for the design of a new four-legged single lane roundabout . He was responsible for contract management, project delivery QA/QC
05/20 - Ongoing	I-10: LA 415 to Essen Lane on I-10/I-12 (CMAR), E. Baton Rouge Parish, LA (H.004100) Miles is the Road Design Lead Professional for the replacement of I-10, interchange improvements, and surface street improvements through Metro Baton Rouge. His responsibilities include road and drainage design, complex interchange geometric design, maintenance of traffic/sequencing plans, coordinating with the CMAR contractor, design and constructability reviews, value engineering assessments, cost estimating, project phasing for GMP limit determination, proposed right-of-way (R/W) and control-of-access limit determination, utility coordination, and public involvement.
04/02 - 04/12	Jones Creek Road Improvements Tiger Bend Road - Coursey Blvd., East Baton Rouge Parish, LA (H.007137) Miles was the principal-in-charge for the Jones Creek Road Improvements project for LA DOTD. The project involves widening an existing two-lane roadway to a five-lane curb and gutter roadway with subsurface drainage. He was responsible for contracts, geometrics, road design, sequence of construction, signing and coordination of traffic signalization. He was also the project manager during the topographic and boundary survey and R/W map preparation phases.

Miles Williams resume continued

03/13 - 07/22	<p>I-10: LA 328 to LA 347, St. Martin Parish (H.003014) I-10: LA 347 to Atchafalaya Floodway Bridge, St. Martin Parish, LA (H.003014) Miles served as the principal-in-charge and road design engineer for capacity and pavement preservation improvements for I-10 in Lafayette. These three projects were designed concurrently under a road design retainer and constructed under three separate construction contracts. He provided overall contract management, designed sequence of construction plans, and mentored the roadway design calculation and plan preparation process. Additionally, he played a supportive role in construction support as well.</p>
12/14 - 04/19	<p>S. Acadian Thruway (Perkins Rd - LA 73), East Baton Rouge Parish, LA (H.011261) Miles was the principal-in-charge for the safety project designed to reduce the number of accidents along the stretch of Acadian Thruway. The project includes replacing the asphalt overlay and improving the intersection design at Claycut Road. Miles reviewed proposed safety and sidewalk improvements as they were implemented in the project.</p>
01/13 - Ongoing	<p>I-49 South: US 90 and Ambassador Caffery Interchange, Lafayette Parish, LA (H.002868) Miles is the road design engineer of record for a new interchange on future I-49 at Ambassador Caffery Parkway in Lafayette, LA. He is responsible for the horizontal and vertical geometric design, subsurface and open ditch drainage design, and road plan production of a four-tiered interchange, eight lane mainline, two-lane one way frontage roads and u-turns. He also is responsible for coordinating the frontage road extensions and interchange alternative design for future/ interim condition implementation.</p>
04/18 - Ongoing	<p>Belle Chasse Bridge and Tunnel Replacement Public-Private Partnership Project, Plaquemines and Jefferson Parish, LA (H.004791) Sigma is a design subconsultant providing drainage design for this alternative delivery project. Miles is serving as project principal and hydraulic design engineer. His work entails liaison with the prime consultant, builder, concessionaire and LA DOTD. He is also assisting in the design of the drainage system for the roadways throughout the project including storm sewer design, drainage plans preparation, and generation of quantities.</p>
07/12 - 12/18	<p>I-10: LA 30 to LA 22, Ascension Parish, LA (H.009276) Miles was the principal in charge for the five mile widening project on I-10. He was responsible for contract management, project delivery QA/QC, and final checking of the construction sequencing plans.</p>

Firm Employed by: Sigma Consulting Group, Inc. (A Waggoner Company)

	Name	Bryan K. Harmon, PE	Years of relevant experience with this employer	8
	Title	Vice President, Special Projects Engineer	Years of relevant experience with other employer(s)	33
	Degree(s)/Years/Specialization	BS/1982/Civil Engineering BS/1981/Agricultural Engineering	Discipline	Civil, Environmental
	Active registration number/state/expiration date	PE.22595/LA/03-31-2025	Year Registered	1987

Contract role(s)/brief description of responsibilities	QA/QC Manager	Meets MPRs 1, 2, 3
Responsibilities: Bryan will serve as the quality assurance/quality control (QA/QC) Manager for the LA 44: Pelican Point Roundabout and Widen project. He has a long history of engineering experience in the transportation sector. Additionally, he has extensive experience in the full spectrum of project/program delivery with a focus on quality and working with state, federal, and local officials to ensure successful project delivery.		

Experience dates (mm/yy-mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
03/13 - 07/22	<p>I-10: East Jct. I-49 to LA 328, Lafayette and St. Martin Parishes, LA (H.003003) I-10: LA 328 to LA 347, St. Martin Parish, LA (H.003014) I-10: LA 347 to Atchafalaya Floodway Bridge, St. Martin Parish, LA (H.003014)</p> <p>Bryan performed roadway and drainage design for these three segments of I-10. He also performed superelevation computations and graphical grades to provide positive drainage along relatively flat grades in the median of the interstate. He was also responsible for QA/QC of the roadway plans and sequence of construction for the LA347 roundabouts and roadway improvements.</p>
05/21 - 03/23	<p>LA 352 Drainage Improvement, St. Martin Parish, LA (H.014415)</p> <p>Bryan is the lead hydraulic engineer for drainage improvements along LA 352 in Henderson, LA. The project includes removing several undersized side drains and side road cross drains with a 10x6 RCB to alleviate regional flooding problems near the I-10 Henderson exit. The design also incorporates a drainage bypass system to balance flows near the interchange. Bryan is responsible for performing HEC-RAS modeling and HYDRO-WIN calculations on the main outfall channel, developing drainage alternatives and associated costs, and QA/QC on the construction plans.</p>

Bryan Harmon resume continued

<p>08/18 - 10/22</p>	<p>I-220/I-20 Interchange and BAFB Access Design-Build, Bossier Parish, LA (H.003370) Bryan was responsible for the evaluation and design of both the existing and proposed drainage systems for this new four-lane rural arterial and roadway. In addition to the standard DOTD drainage evaluations for storm drain systems (inlets, pipes, box culverts, and bridges) consideration of impacts to the surrounding floodplain storage basins and wetlands had to be considered. The floodplain area along the southern limits of the project is also bisected by the KCSRR and is subject to significant backwater and overbank flooding from Red Chute Bayou. Due to the floodplain complexities associated with this lateral overflow storage area, coordination with the Bossier Levee District was required which included utilizing elements of their 2-D Unsteady Flow HEC-RAS Model for this region. Due to the lateral overflows and interchange of flows, consideration of bridge scour was evaluated for the KCSRR Overpass utilizing the HEC-RAS computer model.</p>
<p>10/20 - Ongoing</p>	<p>I-10 and I-12 College Drive Flyover Ramp Design-Build (CE&I/OV), E. Baton Rouge Parish, LA (H.013897) Bryan is serving as both a road design and drainage design reviewer, providing support services to DOTD for this Project. This project consists of modifying the I-10 West/College Drive exit into separate I-12 West and I-10 West exits. Bryan's responsibilities include participation in the progress reviews of each Design Unit and Ready for Construction (RFC) Plan submittals. These reviews include roadway plans, construction sequencing, primary drainage systems, open channel design, with consideration being given to DOTD Design Guidelines, Hydraulics Manual, Standard Details and Specifications, and to potential impacts to the Wards Creek drainage basin and adjoining infrastructure developments. Having served as the Drainage Engineer, Chief Engineer, and ultimately the Director of Public works for the East Baton Rouge City-Parish, Bryan brings significant institutional knowledge of the local drainage and roadway systems within the parish and how they may react to this Project modification. He clearly understands the concerns that may be expressed by the local community and the need for proper public-private communication and partnership on a project of this magnitude.</p>
<p>05/20 - Ongoing</p>	<p>I-10: LA 415 to Essen Lane on I-10/I-12 (CMAR), E. Baton Rouge Parish, LA (H.004100) Bryan is serving as Sigma's supervising Drainage Engineer for this major interstate improvement project from just east of the Mississippi River bridge crossing to just west of College Drive. Bryan is responsible for the final drainage design of the interstate collection systems, local frontage roads and drainage outfalls including the bridge hydraulic evaluation of the Acadian Thruway Bridge over Dawson Creek.</p>
<p>10/20 - Ongoing</p>	<p>Rural Bridge Replacement Initiative Phase II (South), LA (440001338) Bryan is serving as Sigma's supervising Hydraulic Design Engineer for the Phase II Rural Bridge Replacement Initiative. Hydrologic and hydraulic evaluations are being developed to provide a hydraulically suitable replacement for the existing bridge structures that have been designated for replacement under this program. All bridge hydraulic reports, data forms, and data tables are being prepared in accordance the current DOTD Hydraulics manual and design directives.</p>

Firm Employed by: Sigma Consulting Group, Inc. (A Waggoner Company)



Name	Alex D. Farr, PE	Years of relevant experience with this employer	9
Title	Project Manager	Years of relevant experience with other employer(s)	2
Degree(s)/Years/Specialization	BS/2011/Civil Engineering	Discipline	Civil
Active registration number/state/expiration date	PE.40426/LA/09-30-2024	Year Registered	2016

Contract role(s)/brief description of responsibilities	Lead Road Design Engineer	Meets MPRs 3
--	---------------------------	--------------


Responsibilities: Alex will be the lead road design engineer for the LA 44: Pelican Point Roundabout and Widen project. He will be responsible for all geometrics, design reports, details, construction sequencing, and roadway pay item/opinion of probable costs.

Experience dates (mm/yy-mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
01/14 - 12/16	LA 347: Roundabout at Melancon Road, St. Martin Parish, LA (H.009456) Alex was responsible for the permanent signing and striping design, sequence of construction development, Level 2 TMP, and quantity computation for a four-legged single lane roundabout near Breaux Bridge, LA.
2019 - Ongoing	Jones Creek Road Extension (Airline Highway - Tiger Bend Road), East Baton Rouge Parish, LA Alex is responsible for aiding in the preparation of the design study memo of this project, which is under the MOVEBR Program for the extension of a new roadway from a new intersection at Jefferson Highway to Tiger Bend Road. The purpose of this memo is to determine whether this new roadway will be built at-grade or on a structure. Alex is also responsible for the design of the horizontal and vertical geometry of this project to be compliant with MOVEBR Design Guidelines. Along with this, Alex also completed the MOVEBR Project Design Report for this project, which is the MOVEBR Programs form to show that roadway design shall be in accordance with the MOVEBR Design Guidelines.
05/20 - Ongoing	I-10: LA 415 to Essen Lane on I-10/I-12 (CMAR), E. Baton Rouge Parish, LA (H.004100) Alex was responsible for developing the proposed vertical profiles along the entire mainline corridor as well as their respective service roads, surface streets, entrance, and exit ramps. This included determining existing vertical clearance along the corridor and adjusting the profile to meet the minimum vertical clearance per LA DOTD minimum design guidelines. This was performed along this corridor by using as-builts pertaining to their respective locations. Alex was also responsible for calculating the roadway and bridge construction costs for the project opinion of probable costs.

Alex Farr resume continued

<p>03/13 - 07/22</p>	<p>I-10: East Jct. I-49 to LA 328, Lafayette and St. Martin Parishes, LA (H.003003) I-10: LA 328 to LA 347, St. Martin Parish, LA (H.003014) I-10: LA 347 to Atchafalaya Floodway Bridge, St. Martin Parish, LA (H.003014) Alex was responsible for producing the Level 4 TMP for all three segments of I-10 in Lafayette. The TMPs pertained to alternate route analysis, public information, stakeholder involvement, traffic and safety data, temporary traffic control, and work zone impact management strategies. Alex was also responsible for the suggested sequence of construction, temporary signing, and quantity computations for each construction funding source and control section.</p>
<p>09/15 - 12/18</p>	<p>I-10: LA 30 to LA 22, Ascension Parish, LA (H.009276) Alex was responsible for performing the Transportation Management Plan (TMP) as well as the Safety Analysis for this project to determine what safety concerns correlated to the construction of this segment. Alex was also responsible for the suggested sequence of construction, diversion road design, guardrail design, and the quantity estimate for the above mentioned project.</p>
<p>10/20 - Ongoing</p>	<p>Rural Bridge Replacement Initiative Phase II (South), LA (440001338) Alex is responsible for the plan development of this project, which is for 16 state projects including 29 bridge replacement sites throughout south Louisiana. This includes preparing the Project Design Report (PDR) as well as the horizontal and vertical geometry. As some bridge sites are allowed to be closed for construction while others must remain open, Alex is also responsible for designing a detour route or diversion road, which includes a suggested sequence of construction. Alex is also responsible for the guardrail design at each bridge site. Along with plan development, Alex will be assisting the Project Manager in subconsultant coordination as well as invoicing and progress reporting to the LA DOTD Project Manager.</p>

Firm Employed by: Sigma Consulting Group, Inc. (A Waggoner Company)

	Name	Andrew Windmann, PE	Years of relevant experience with this employer	<1
	Title	Senior Bridge Design Engineer	Years of relevant experience with other employer(s)	13.5
	Degree(s)/Years/Specialization	BS/2010/Civil Engineering	Discipline	Civil
	Active registration number/state/expiration date	PE No.0039042/LA/9-30-2024	Year Registered	2014

Contract role(s)/brief description of responsibilities	Bridge Design Lead	Meets MPRs 4
--	--------------------	--------------


Responsibilities: Andrew will serve as the bridge design lead for the LA 44: Pelican Point Roundabout and Widen project. He has over 13 years of DOTD Bridge Design experience and knowledge, including intimate understanding of all current design, evaluation, and procedural policies along with specific experience related to structure evaluation and widening.

Experience dates (mm/yy-mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
03/13 - 12/19	<p>I-10: I-49 E. Junction to LA 328 Widening Project, Lafayette, LA (H.003003)</p> <p>Andrew served as the lead bridge design engineer on this project that included the widening or full replacement of 12 bridge structures (six unique sites) along the I-10 mainline. The scope of this project included the initial assessment of each bridge to provide recommendation on widening versus replacement, while factoring in current condition, load-carrying capacity, and feasibility of construction. During Stage 3 of the project, Andrew led the structural team, ensuring the design of every component and detailing of over 300 plan sheets were performed with great quality following LA DOTD's QC/QA plan. Structural components included concrete slab span bridges and decks, skewed PPC girder superstructures (AASHTO and LG girders), pile-supported bent caps, column bents supported on pile footings and drilled shafts. Andrew also provided construction-related engineering services throughout the 3.5-year construction timeframe. Services included fabrication drawing review, responding to contractor RFIs and contractor proposals, as well as reviewing required contract submittals.</p>
03/13 - 12/19	<p>I-10: LA 347 to Atchafalaya Fldwy. Widening Project, St. Martin, LA (H.003014)</p> <p>Andrew served as the lead bridge design engineer on this project that included the rehabilitation and widening of six bridge structures (three unique sites) along the I-10 mainline. The scope of this project included the initial assessment of each bridge to provide recommendation on widening versus replacement, while factoring in current condition, load-carrying capacity, and feasibility of construction. During Stage 3 of the project, Andrew led the structural team, ensuring the design of every component and detailing of over 120 plan sheets were performed with great quality following LA DOTD's QC/QA plan. Structural components included concrete decks, skewed PPC girder superstructures (AASHTO-</p>

Andrew Windmann resume continued

	<p>girders), pile supported bent caps, column bents supported on pile footings and drilled shafts. Andrew also provided construction-related engineering services throughout the 3.5-year construction time-frame. Services included fabrication drawing review, responding to contractor RFIs and contractor proposals, as well as reviewing required contract submittals.</p>
<p>08/16 - 08/22</p>	<p>I-10: LA 328 to LA 347 Widening Project, St. Martin, LA (H.010601) Andrew served as the lead bridge design engineer on this project that included the replacement of two existing mainline bridges over an abandoned railroad and local road with at-grade I-10 roadway and a singular new bridge allowing the local road to overpass the interstate. The scope of this project included the design and detailing of every component while committing to great quality. Initial work on this project included the structure layout (type, size, and location) of the new overpass structure to ensure adequate horizontal and vertical clearance were provided. Structural components included concrete deck, skewed LG-girder superstructures pile-supported bent caps, column bents supported on pile footings, and columns supported on drilled shafts. Andrew also provided construction-related engineering services throughout the three-year construction time-frame. Services included fabrication drawing review, responding to contractor Requests for Information and contract proposals, as well as reviewing required contract submittals.</p>
<p>06/17 - 10/23</p>	<p>LA 20: Bayou Chevreuil Bridge, St. James, LA (H.009481) Andrew served as the project manager and provided review of the bridge design on this project that included the replacement of a functionally obsolete and geometrically substandard 28'x350' concrete girder bridge with a 40'x835' LG girder bridge with slab span approaches. The replacement bridge was significantly lengthened to provide adequate sight distance traversing the vertical curve and was wider to provide additional space for the rural farm and hauling vehicles that used this highway. As project manager, Andrew ensured the project met scope, schedule, and budgetary needs while coordinating with local governmental interests and a boat launch on site. As the bridge design reviewer, Andrew ensured that the bridge plans were created and checked in conformance with all QC/QA policy requirements and provided comments towards the constructability of the proposed new structure.</p>
<p>05/10 - 10/23</p>	<p>LA DOTD Bridge Design Section (Engineer Intern to Assistant Bridge Design Administrator) Prior to joining Sigma, Andrew worked in the Bridge Design section at LA DOTD for 13.5 years. Andrew gained a breadth and depth of organizational, procedural, and state-specific knowledge of LA DOTD's design requirements, including internal policies, preferences, and intimate knowledge of the current standard plans. Part of his time working in the Bridge section, Andrew served as a manager in the Bridge Manual, Specifications, and Standards sub-unit, where he oversaw the development of the slab-span standard plans, LG-girder standard plans, among others. Immediately prior to joining Sigma, Andrew served as the state-wide Bridge Preservation program manager whose responsibility it was to understand the overall health of the over 7000-bridge inventory as well as program bridge replacement, rehabilitation, and repair projects over a rolling eight-year program to spend an annual budget of \$240 million. He has a unique understanding of the Department's need for practical design and getting the most efficient bridge replacements completed to get the most use of the insufficient funds received for bridge preservation across the state.</p>

Firm Employed by: Sigma Consulting Group, Inc. (A Waggoner Company)

	Name	Joshua Gonya, PE	Years of relevant experience with this employer	<1
	Title	Senior Bridge Design Engineer	Years of relevant experience with other employer(s)	15
	Degree(s)/Years/Specialization	BS/2008/Civil Engineering/Structures	Discipline	Civil
	Active registration number/state/expiration date	PE No. 40859/LA/9-30-24 PE No. 11700606/IN/7-31-24	Year Registered	2016

Contract role(s)/brief description of responsibilities	Bridge Rating Lead	Meets MPRs 5
--	--------------------	--------------

Responsibilities: Joshua will serve as the lead bridge load rating and inspection engineer for the LA 44: Pelican Point Roundabout and Widen project. He has over 15 years of experience in the structural design, inspection, and load rating of bridges. He will conduct certified bridge inspections, prepare a comprehensive evaluation report, and make design recommendations for the bridges on this project.

Experience dates (mm/yy-mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
09/13 - 08/17	Load Rating and Posting of On-System Bridges, LA DOTD, Statewide, Louisiana Joshua was the lead load rating engineer for this project. He was responsible for developing LRFR load rating procedures using AASHTOWare BrR for superstructures, and LEAP RC Pier for substructures while working closely with LA DOTD personnel. All structures were rated per AASHTO MBE utilizing LA DOTD guidelines. Procedures were coordinated with LA DOTD to assist in the further refinement of LA DOTD BDEM Volume 5 Chapter 6 on load ratings. This project covered a wide variety of bridge superstructure types including: timber, reinforced concrete girders and slabs, prestressed concrete girders, steel trusses, steel plate girders, and steel rolled beams as well as various substructure types.
05/14 - 05/15	Essen Lane over Wards Creek Bridge Widening, LA DOTD, Baton Rouge, LA Joshua was responsible for initial bridge evaluations and widening of the existing Essen Lane bridge over Wards creek. This project involved utility relocations, extending and matching existing substructures, extending, and matching existing slab span bridge elements. The bridge was evaluated in all temporary structural layouts with temporary traffic conditions.
05/16 - 12/16	US 82 over Mississippi River In-Depth Bridge Inspection and Load Rating, MDOT, Greenville, MS Joshua served as a field team leader and load rater for the in-depth inspection, fracture critical, and element level inspection of the US 82 over the Mississippi river bridge. This project consisted of collecting field data utilizing National Bridge Elements, fracture critical elements, and in-depth hands-on SPRAT access inspectors of 112 stay cables. The findings were used to develop an overall bridge report and load rating.

Joshua Gonya resume continued

<p>05/18 - 05/20</p>	<p>Worthsville Road over Tracy Ditch Bridge Replacement - Greenwood, Greenwood, IN Joshua was the project manager and lead designer. He completed the design of a 72'-6" single-span, Hybrid Bulb-Tee Beam bridge to replace the existing three-sided culvert over Tracy Ditch. Bridge Hydraulic design was completed to size the bridge and provide Q100 roadway serviceability. The bridge was designed to accommodate phased construction so that one lane of traffic could be maintained in each direction during construction. The end bents and bridge piling were spaced and designed to span an existing sanitary force main that could not be relocated. The bridge cross section includes four travel lanes, striped median, two raised sidewalks, and bridge railing.</p>
<p>05/19 - 08/20</p>	<p>SR 15 over Eagle Creek Bridge Replacement, Kosciusko County, INDOT, Kosciusko County, IN Joshua was the project manager and lead designer. He completed the design of a custom three-span slab superstructure supported by integral end bents and interior open pile bents found on steel shell piles. Hydraulic design and site visits concluded that drift and debris are a major factor for Eagle creek and the open pile bents were used in order to minimize the amount of drift present at the structure. The bridge was designed to accommodate phased construction so that one lane of heavy truck traffic could be maintained at all times during construction. This bridge was in an urban area and required a large effort for utility coordination and local business coordination.</p>
<p>08/18 - 07/19</p>	<p>SR 3 over Willow Creek Rehabilitation, INDOT, Allen County, IN Joshua was the project manager and was responsible for the inspection, assessment, and rehabilitation recommendations of this project. After infield condition assessments he recommended that the project consist of fiber wrapping substructure elements, patching, overlaying the bridge deck, adding channel protection, and traffic management plans.</p>
<p>08/18 - 07/19</p>	<p>SR 101 over Hamm Ditch Rehabilitation, INDOT, Allen County, IN Joshua was the project manager and he was responsible for the inspection, assessment, and rehabilitation recommendations of this project. After in field condition assessments he recommended that the project consist of deck and coping replacement, patching of the super and sub structures, railing replacement, approach slab replacement, and reconstruction of the roadway to provide a smoot transition over the limits of the project.</p>
<p>08/17 - 09/22</p>	<p>Central Office Load Rating Contract, INDOT, Statewide, IN Joshua was the project manager and lead load rating engineer. He oversaw the rating of 300+ bridges throughout the state of Indiana. Some notable ratings include curved post-tensioned segmental, curved steel continuous girder, cold bent steel boxes, steel trusses, precast arches underfill, steel beam bridges, slab spans, and typical continuous prestressed beam bridges. Joshua also provided support in the rating of many steel bridges inaccurately not rating, specifically assisting with the issue of Lateral Torsional Buckling in the negative moment region for a steel girder bridge. These ratings included new design ratings and added deterioration ratings as well as specific investigations and overrides of the preferred rating software (AASHTOware BrR).</p>

Firm Employed by: Vectura Consulting Services, LLC



Name	Sheelagh Brin Ferlito, PE, PTOE	Years of relevant experience with this employer	8
Title	Principal	Years of relevant experience with other employer(s)	27
Degree(s)/Years/Specialization	BS/1988/Civil Engineering	Discipline	Civil
Active registration number/state/expiration date	PE.0025383/LA/09-30-2025	Year Registered	1993

Contract role(s)/brief description of responsibilities	Traffic & TMP	Meets MPRs 6
--	---------------	--------------


Responsibilities: Brin will be responsible for traffic control design, traffic signal analysis and design, traffic management plans, and peer reviews for the LA 44: Pelican Point Roundabout and Widen project.

Experience dates (mm/yy-mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
07/21 - Ongoing	EBR Computerized Traffic Signal, Phase VB, Baton Rouge, LA (H.007160) Brin is the task leader for Vectura for the Construction Engineering and Inspection of 24 traffic signals. Brin oversaw the review of signal mast arm shop drawings to assist the City-Parish of Baton Rouge in accepting the manufactured poles. Brin and Reece, with the DOTD, City-Parish, and the Contractor conducted field visits to confirm pole foundation locations.
07/19 - Ongoing	MOVEBR New Capacity Projects Program Management, Baton Rouge, LA Brin is the lead traffic engineer for entire the New Capacity Projects program management team. All traffic engineering scope of services, traffic/speed data collection, traffic design studies, safety studies, and traffic signal design plans are reviewed by Brin. She is in constant communication with the Traffic Engineering staff of DOTD and EBR Traffic Engineering Department. She understands the current requirements for all aspects of traffic engineering projects.
07/19 - Ongoing	DOTD Belle Chase Bridge and Tunnel Replacement PPP, Belle Chase, LA (H.004791) Brin is the project manager for the temporary and permanent traffic signal plans for the intersections of LA 23 at Burmaster St. and at Engineers Rd. She based her traffic signal plans on design year volumes that were developed using growth rates from the New Orleans Regional Planning Commission Travel Demand Model. This project is the first ever Public-Private-Partnership (PPP) performed by Louisiana DOTD.

Brin Ferlito resume continued

<p>04/18 - 06/21</p>	<p>Roundabout: US 171 at Boone St., Vernon Parish, LA (H.011909.5-4) Brin reviewed 60% Preliminary Signing and Striping Plans and developed documented comments based on LA DOTD Road Design Manual, LA DOTD Standard Details, and MUTCD. She is also the project manager for the design of temporary traffic signal plans that will be implemented during the roundabout construction at the intersection of US 171 at Boone Street in Leesville, LA. She coordinated access management issues using aerials, aged traffic volumes and Synchro Software.</p>
<p>09/20 - 12/21</p>	<p>LA 30 Roundabouts at Tanger I-10, Ascension Parish, LA (H.010960.5) Brin is the project manager for the design of temporary traffic signal plans that will be implemented during the roundabout construction along LA 30 in Gonzales, LA. The project involves replacing three existing signalized intersections with multi-lane roundabouts along LA 30 at I-10 interchange ramps and at Tanger Boulevard. Vectura also developed signal timing plans for each phase of the construction to maintain progression along LA 30.</p>
<p>02/17 - 10/17</p>	<p>Stage 0 Judge Tanner Boulevard at N. Causeway Roundabout Study, St. Tammany Parish, LA Brin developed the safety analyses for a Stage 0 Study for four intersections in the Mandeville area. The study was based on EDSMs VI.1.1.1/VI.1.1.5 and DOTD Traffic Engineering Manual Section 20.2. Brin assisted collecting seven-day, 24-hour counts w/classification, turning movement counts for peak periods, and speed data for mainlines. She developed signal timing in the PTV Vistro software. The signal timings were then used in Sidra to complete the HCM analyses. Brin provided a quality control review of the traffic report.</p>
<p>06/16 - 09/17</p>	<p>Stage 0 Roundabout Studies, Lafayette Parish, LA (H.004490) Brin developed sections of a Stage 0 Feasibility Study for roundabouts that conformed to DOTD EDSMs and Traffic Engineering Manual Section 20.2 at 10 intersections in the Lafayette area. Brin, along with Laurence, collected seven-day, 24-hour counts with classification, turning movement counts for AM and PM peak periods, and speed data for mainlines. Brin provide a QC review of the Sidra analyses and developed traffic signal timing for three intersections for Years 2019 and 2039, AM and PM peak hours, and developed a crash analyses as defined in Section 20.2 of TEM. CMF factors were identified for the preferred alternative to predict the number of crashes that could be eliminated. Brin also provided a QC review of the final draft.</p>
<p>07/18 - 04/19</p>	<p>LA 1 Pedestrian Crosswalk Study and Traffic/Pedestrian Signal Design, West Baton Rouge Parish, Addis, LA Brin developed a Pedestrian Crosswalk Study and Traffic Signal Construction Plans for the intersection of LA 1 at LA 990 in Addis, LA. The study was based on DOTD Traffic Engineering Manual Crosswalk Guidelines followed by traffic signal design plans based on DOTD requirements. The study included traffic and pedestrian traffic data collection, a speed study, crash analyses, intersection analyses, and progression analyses. The signal plans included pedestrian signal equipment, signal timing parameter calculations, crosswalk striping, signs, DOTD pay items, estimated quantities, and construction cost. Brin also assisted with the Parish with the DOTD Permit Request for Intersection Control Devices on a State right-of-way.</p>

Firm Employed by: Vectura Consulting Services, LLC

	Name	Laurence Lucius Lambert, II, PE, PTOE, PTP	Years of relevant experience with this employer	8
	Title	Principal	Years of relevant experience with other employer(s)	18
	Degree(s)/Years/Specialization	BS/1997/Civil Engineering MS/2006/Transportation MBA/2010	Discipline	Civil
	Active registration number/state/expiration date	PE.0029901/LA/03-31-2024	Year Registered	2001

Contract role(s)/brief description of responsibilities	Traffic & TMP	Meets MPRs 6
--	---------------	--------------


Responsibilities: Laurence will be responsible for traffic control design, traffic signal analysis and design, traffic management plans, and peer reviews for the LA 44: Pelican Point Roundabout and Widen project.

Experience dates (mm/yy-mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
02/21 - 03/21	I-10 ITS Scott to Lake Charles, Southwest Louisiana (H.013256.5) Laurence was the lead traffic engineer for a Level 2 traffic management plan (TMP) for the construction of ITS equipment along I-10. The plan included a safety strategy that included a CAT Scan, LOS determination utilizing Citrix data, lane closure recommendations based on a queue analysis, and public information strategies.
07/22 - 09/22	US 167: Camellia Blvd. - Churchill Dr, Pedestrian Count Study, Lafayette, LA (H.013716.5) Laurence developed a technical memorandum as part of a DOTD Safety IDIQ contract to document if an approach at a signalized intersection met the warrants listed in the Traffic Engineering Manual Sections 3B.2.4 and 3B.2.8 for a pedestrian marked crosswalk.
07/19 - Ongoing	MOVEBR New Capacity Projects Program Management, Baton Rouge, LA At the beginning of the program, Laurence worked with the Capital Region Planning Commission to produce measures of effectiveness from the travel demand model to prioritize the MOVEBR project list. Laurence and Pong Wu developed a list of vehicle miles traveled, V/C ratios and vehicles hours of delay. Laurence also provided peer review for the traffic studies for Ben Hur Road and Lee Drive.

Laurence Lambert resume continued

<p>04/18 - 12/21</p>	<p>LA 30 Roundabouts at Tanger and I-10 Gonzales, Ascension, LA (H.010960.5) Laurence provided a Quality Control review of the temporary construction and sequence of construction plans. Vectura also provided Quality Control review of signing and striping plans at 30% and 60% plan sets to ensure the roundabouts conformed to the Pavement Markings Details Sheet PM-09 and the MUTCD details on roundabouts.</p>
<p>04/18 - 12/21</p>	<p>Roundabout: US 171 at Boone Street, Vernon Parish, LA (H.011909.5-4) Laurence provided a Quality Control review of the temporary construction and sequence of construction plans. Vectura also provided Quality Control review of signing and striping plans at 30% and 60% plan sets to ensure the roundabouts conformed to the Pavement Markings Details Sheet PM-09 and the MUTCD details on roundabouts.</p>
<p>02/20 - 09/21</p>	<p>College Drive Corridor Enhancement from Perkins Road to I-10, Baton Rouge, LA Laurence was the project manager to develop Chapter 1 (Data Collection), Appendix A (Initial Data Collection), and Appendix B (Final Data Collection) for proposed improvements College Drive. Since the I-10 interchange was included in the study, approval from DOTD was required. Vectura collected, turning movement counts, 85% speed data, travel time runs, queue measurements, field observations, verification of Traffic Signal Inventories, and bicycle/pedestrian/transit observations.</p>
<p>09/16 - 04/17</p>	<p>LA 182 (University Avenue) Corridor Planning Study, Lafayette, LA (H.013025) Laurence was the lead transportation engineer for a Corridor Planning Study for LA 182. The scope focused on improving safety and mobility for pedestrian, bicycle, and transit users. Laurence collected AM and PM peak vehicle turning movement counts as well as pedestrian and bicycle counts. Laurence coordinated with the Acadiana Planning Commission to develop growth rates and design year volumes. Laurence then performed Highway Capacity Manual analysis for five intersections along the intersection analyses for the signalized and roundabout controlled alternatives. Included in the study was a safety analyses of five intersections and the intermediate segments. Based on the results of the safety analysis, Laurence provided design criteria to the design team for improving safety of pedestrians, bicycles, and vehicles.</p>
<p>06/16 - 09/17</p>	<p>Stage 0 Roundabout Studies, Lafayette Parish, LA (H.004490) Laurence performed a Stage 0 Feasibility Study for roundabouts at ten intersections in the Lafayette area. The scope was developed based on EDSMs VI.1.1.1/VI.1.1.5 and DOTD Traffic Engineering Manual Section 20.2. Laurence, along with Brin, collected seven-day, 24-hour counts with classification, turning movement counts for peak periods and speed data for mainlines. Once the traffic data was collected, Laurence performed traffic signal warrants analyses, performed a Sidra unsignalized, signalized, and roundabout analyses. After the analyses were completed, Laurence developed a report that captured the results.</p>

Firm Employed by: Sigma Consulting Group, Inc. (A Waggoner Company)

	Name	Joshua K. Renard, PE	Years of relevant experience with this employer	17
	Title	Project Manager	Years of relevant experience with other employer(s)	0.5
	Degree(s)/Years/Specialization	BS/2006/Civil Engineering	Discipline	Civil
	Active registration number/state/expiration date	PE.36015/LA/03-31-2025	Year Registered	2011

Contract role(s)/brief description of responsibilities	Road Design, Utility Coordination	Meets MPRs 3
--	-----------------------------------	--------------


Responsibilities: Joshua will provide road design and utility coordination for the LA 44: Pelican Point Roundabout and Widen project.

Experience dates (mm/yy-mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
01/22 - Ongoing	LA 408: Hooper Road (Blackwater Bayou to Joor Rd.) East Baton Rouge Parish, LA (H.002316/CP No. 12-CS-HC-0017) Joshua was the project manager for the five-lane road widening project in the city of Central. This two-mile rural road includes a new two-lane roundabout and accommodates pedestrians, bicyclists and vehicles. His responsibilities included roadway and drainage design, plan preparation, utility coordination, and SUE services including QL-B designations and QL-A locates.
01/14 - 12/16	LA347: Roundabout at Melancon Road, St. Martin Parish, LA (H.009456) Joshua served as a project engineer for the design of a single lane roundabout in St. Martin Parish. He designed the typical sections and graphical grades for the approach legs, the splitter islands, and the transition to the existing roadways. He also prepared quantities for the project.
01/14 - 07/16	LA342: Roundabout at LA 724, Lafayette Parish, LA (H.002163) Joshua served as a project engineer for the design of a single lane roundabout in Lafayette Parish. He designed the typical sections and graphical grades for the approach legs, the splitter islands, and the transition to the existing roadways. He also prepared quantities for the project.

Joshua Renard resume continued

<p>04/18 - Ongoing</p>	<p>Belle Chasse Bridge and Tunnel Replacement Public-Private Partnership Project, Plaquemines and Jefferson Parish, LA (H.004791) Joshua served as the drainage design quality control checker for this road design project. His efforts ensure that the project's drainage meets the requirements of the owner, parish and project specifications. This included technical checking for the existing and design drainage maps, HydroWIN calculation checks, drainage plan profile checking, and hydraulic computation book checking.</p>
<p>10/16 - 12/20</p>	<p>I-10: Highland to LA 73 Design-Build Project, E. Baton Rouge and Ascension Parish, LA (H.009250) Joshua served as the utility coordinator for this interstate design build project. He communicated with and gathered information from utility owners to ensure that the road was designed and the contractor could proceed without conflict. Joshua coordinated efforts to have telecommunications, water, and gas lines marked in the field and then led efforts to have Level A test holes performed to ensure a successful no-conflict design</p>

Firm Employed by: Sigma Consulting Group, Inc. (A Waggoner Company)

	Name	Kelsie L. Bankston, PE	Years of relevant experience with this employer	2
	Title	Project Engineer	Years of relevant experience with other employer(s)	3.5
	Degree(s)/Years/Specialization	BS/2018/Civil Engineering	Discipline	Civil
	Active registration number/state/expiration date	PE.47126/LA /03-31-2025	Year Registered	2022

Contract role(s)/brief description of responsibilities	Road Design/Bridge Rating	Meets MPRs 3
--	---------------------------	--------------


Responsibilities: Kelsie will be responsible for road design and bridge rating for the LA 44: Pelican Point Roundabout and Widen project.

Experience dates (mm/yy-mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
10/21 - Ongoing	I-10: LA 415 to Essen Lane on I-10/I-12 (CMAR), E. Baton Rouge Parish, LA (H.004100) Kelsie has assisted in the preparation of various submittals for this project. She has assisted in the typical section design, plan and profile preparation, required right of way and roadway geometrics for various sections and stages of this project, and is responsible for the graphical grading and superelevation design of multiple ramps throughout the corridor. She is responsible for documenting and tracking information, documents and comments received from LA DOTD and other consultants on the design team. Kelsie has performed quantity calculations and prepared quantity tables for various submittal stages.
10/20 - Ongoing	Rural Bridge Replacement Initiative, LA Kelsie is managing and designing four bridge replacement projects included in this contract. This work includes assessing site conditions, deciding the structure type and size based on the hydraulics of the channel, and designing the roadway approaches. She is responsible for project management, roadway and slab span bridge design, construction plan preparation, quantity computations, and developing an opinion of probable costs.
2021 - 02/23	LA 73: US 61 (Airline)-Essen Lane, East Baton Rouge, LA (H.010652) This roadway transfer project involves replacement of the existing LA73 roadway with a new asphalt pavement section. Kelsie assisted in setting up the base geometry using as-built drawings and survey data for the reconstruction of LA 73, including curb and gutter and sidewalks throughout the limits of the project. She was responsible for all quantity calculations, including compiling the quantity book, and the summary sheets. She also performed the QA/QC of the geometric details.

Kelsie Bankston resume continued

<p>05/21 - 03/23</p>	<p>LA 352 Drainage Improvement, St. Martin Parish, LA (H.014415) This project involves channel improvements and adding subsurface drainage systems to an outfall channel adjacent to LA 352. Kelsie is responsible for the typical sections, plan profiles, developing a suggested sequence of construction, diversion road design for maintenance of traffic, quantity computations, pay item list, and documentation of comments and responses.</p>
<p>2018 - 2021</p>	<p>LA DOTD Retainer Contract for Off-System Bridge Load Rating, Statewide Task Order 1 – Kelsie assisted in performing bridge inspections for 3 of 13 complex movable bridges throughout the state. She also assisted in the load rating of the bridge substructures, reviewing the ratings of some of the superstructures, as well as preparing the inspection and load rating reports. The complex bridge types included through truss, bascule, vertical lift span, and swing span as well as others. Task Order 2 – Kelsie assisted in the load rating of 200 existing bridges across Louisiana. The bridges consisted primarily of cast-in-place and precast slab spans. She also performed inspections and site visits on some of the bridges to gather enough information and measurements to assume a standard plan and perform a load rating. Kelsie was also involved in developing load rating plans based on field measurements for the bridges that did not have plans, or did not match a standard plan, as well as compiling reports and preparing submittals. Task Order 4 – Kelsie assisted in the load rating of 340 existing bridges across Louisiana. The bridges consisted primarily of cast-in-place and precast slab spans, but also included concrete and steel girder spans. She also performed inspections and site visits on some of the bridges to gather enough information and measurements to assign a standard plan and perform a load rating. Kelsie was also involved in developing load rating plans based on field measurements for the bridges that did not have plans, or did not match a standard plan, as well as compiling reports and preparing submittals. For each of the task orders, Kelsie developed and oversaw a master table with all of the bridge information for each individual bridge that was used to track progress and group bridges by type and location for submittals to maximize efficiency. She also created a google earth file with every bridge location.</p>

Firm Employed by: Sigma Consulting Group, Inc. (A Waggoner Company)

	Name	Brandon J. Bourgoyne, PE	Years of relevant experience with this employer	4
	Title	Project Engineer	Years of relevant experience with other employer(s)	0
	Degree(s)/Years/Specialization	BS/2019/Civil Engineering	Discipline	Civil
	Active registration number/state/expiration date	PE.48025/LA/09-30-2025	Year Registered	2023

Contract role(s)/brief description of responsibilities	Road and Drainage Design	Meets MPRs 3
--	--------------------------	--------------


Responsibilities: Brandon will be responsible for road and drainage design for the LA 44: Pelican Point Roundabout and Widen project.

Experience dates (mm/yy-mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
2021 - 02/23	<p>Hooper Road (LA 408), East Baton Rouge Parish, LA (H.002316/CP No. 12-CS-HC-0017)</p> <p>The project consists of improving Hooper Road in Central, LA from Blackwater Road to Sullivan Road. Brandon created existing and proposed drainage computations including the following: existing drainage areas, calculated pre and post development stormwater parameters, created HEC-RAS models of the five existing major cross drains to evaluate existing and proposed conditions. Brandon sized and designed reinforced box culverts for cross drains, open ditches and/or drainage structures and piped systems for storm drainage collection. He determined the off-site area that would overland flow directly to the roadway, as well as using the rational method for calculating the runoff. He also created the drainage plan and profile, existing and proposed drainage, and the summary of drainage structures. Brandon performed calculations and plan preparation using HYDRWIN, Global Mapper, HEC-RAS, Excel, and Civil3D.</p>
10/21 - Ongoing	<p>I-10: LA 415 to Essen Lane on I-10/I-12 (CMAR), E. Baton Rouge Parish, LA (H.004100)</p> <p>This project involves replacing the six-lane I-10 roadway and bridge with an eight-lane section, new interchanges throughout the corridor length, and modifications to surface streets. Brandon evaluated and designed drainage systems throughout the project corridor from the I-10/I-110 split to Acadian Thruway. He created an existing drainage report that showed the existing drainage systems areas for the entire length of the project. He created the design drainage report for both temporary and permanent drainage systems within 3 major drainage basins. Brandon prepared proposed drainage systems, ditches, and spread calculations for interstate, ramps, and side streets. He also designed a bridge drainage system that would carry the first inch of runoff from the road to a water quality treatment area and limit stormwater spread.</p>

Brandon Bourgoyne resume continued

<p>10/20 - Ongoing</p>	<p>Rural Bridge Replacement Initiative, LA This project consists of 16 state projects including 29 bridge replacements throughout south Louisiana. Brandon is the lead engineer for five of the 16 projects. He prepared the roadway plans and engineering calculations which include guardrail design, creating roadway alignments and profiles, and ditch design. He prepared the design criteria reports along with written justification for design waivers and exceptions where warranted for each project. Brandon also calculated bridge hydraulic and scour and prepared reports for each bridge site. He determined large watershed areas, calculated the runoff discharges using either the SCS or USGS method, and created HEC-RAS models of both the existing and proposed bridge configurations.</p>
<p>06/19 - Ongoing</p>	<p>I-220/I-20 Interchange Improvements and BAFB Access Design-Build, Bossier Parish, LA (H.003370) The project consists of constructing a new four-lane rural arterial extending from the existing I-220 terminus north of I-20 southward to a terminus within Barksdale Air Force Base. This includes an elevated section which will cross the Kansas City Southern Railway (KCS RR). Brandon reviewed the horizontal and vertical geometric design and calculations for compliance with LA DOTD and AASHTO Green Book guidelines.</p>
<p>06/19 - Ongoing</p>	<p>Belle Chasse Bridge and Tunnel Replacement, Plaquemines/Jefferson Parish, LA (H.004791) This project consists of constructing a new bridge crossing the Intracoastal Waterway to replace the existing tunnel and vertical lift bridge. Brandon created the existing and design drainage maps, checked calculations for open ditch and subsurface drainage systems, and calculated roadway stormwater spread impacts. He also reviewed and recommended shop drawings for approval for proposed drainage structures such as inlets, catch basins, and manholes during construction.</p>
<p>09/15 - Ongoing</p>	<p>I-49 South: US 90 and Ambassador Caffery Interchange, Lafayette Parish, (H.002868) This new interchange will be constructed on future I-49 at Ambassador Caffery Parkway interchange in Lafayette, LA. Brandon was responsible for checking the final drainage design for the six major cross drains proposed in the project. Brandon was also responsible for checking column quantities for the bridge plans.</p>

Firm Employed by: Sigma Consulting Group, Inc. (A Waggoner Company)

	Name	Charlotte Gremillion, PE	Years of relevant experience with this employer	3
	Title	Project Engineer	Years of relevant experience with other employer(s)	1.5
	Degree(s)/Years/Specialization	BS/2018/Civil Engineering	Discipline	Civil
	Active registration number/state/expiration date	PE No.47930/LA/09-30-25	Year Registered	2023

Contract role(s)/brief description of responsibilities	Road Design	Meets MPRs 3
--	-------------	--------------


Responsibilities: Charlotte will be responsible for road design for the LA 44: Pelican Point Roundabout and Widen project.

Experience dates (mm/yy-mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
09/22 - Ongoing	LA 1088: Soutl and Trinity Roundabouts, St. Tammany Parish, LA (H.010116) This project includes replacing two intersections and the connecting two-lane urban arterial with roundabouts and a four-lane boulevard section. Charlotte responsibilities include roadway geometrics, design reports, technical calculations, and plan development. She designed all typical sections through the addition of two new roundabouts. She identified and assessed the design constraints in the area when deciding the location of the two roundabouts and roadway approaches. She connected the existing conditions to the new designs so that access would not be limited.
05/20 - Ongoing	I-10: LA 415 to Essen Lane on I-10 and I-12, Baton Rouge, LA (H.004100) This project is to replace the urban interstate through downtown Baton Rouge under an alternative delivery process. Charlotte serves as a technical design engineer for urban freeways, grade separation interchanges, urban arterials, urban collectors, and local streets. She is the lead design engineer for roundabouts at the Dalrymple Drive Exit Ramp and Terrance Street at Braddock Street intersection. She prepares roadway design calculations, executes technical reviews, and prepares construction plans for several stages, phases, and segments of the project. She also performs quantity calculations and prepares quantity tables for various submittal stages. She is responsible for plan and profile preparation, cross sections and roadway geometrics for various sections and stages of the project.

Charlotte Gremillion resume continued

<p>2021 - Ongoing</p>	<p>Rural Bridge Replacement Initiative, LA Charlotte is in charge of managing a bridge replacement project included in this contract. This work includes assessing site conditions, deciding the structure type and size based on the hydraulics of the channel, and designing the roadway approaches. She will be responsible for preparing the submittals for each of these bridges as well as submitting monthly progress reports.</p>
<p>10/20 - Ongoing</p>	<p>I-10/I-12 College Flyover, East Baton Rouge Parish, LA (H.013897) This project includes design upgrades to a grade separation fully directional interchange of two interstates in Baton Rouge, LA. Charlotte serves as a technical review engineer for the owner verification team on the following design units: definitive design, clearing and grubbing, roadway (multiple units), drainage, maintenance of traffic (multiple units), pavement marking and signing, SWPPP, and TMP Level 4. Her responsibilities include technical reviews of calculations and drawings for conformance to the Minimum Guidelines, Project Technical Performance Specifications, and Contract Documents. She manages all technical comments originating from her firm and take part in technical review meetings with the design-builder and owner.</p>

Firm Employed by: Sigma Consulting Group, Inc. (A Waggoner Company)

	Name	Joshua P. Olivier, PE	Years of relevant experience with this employer	6
	Title	Project Engineer	Years of relevant experience with other employer(s)	0
	Degree(s)/Years/Specialization	BS/2017/Civil Engineering	Discipline	Civil
	Active registration number/state/expiration date	PE No. 46498/LA/09-30-24	Year Registered	2022

Contract role(s)/brief description of responsibilities	Bridge Design
--	---------------

Responsibilities: Joshua will be responsible for bridge design for the LA 44: Pelican Point Roundabout and Widen project.

Experience dates (mm/yy-mm/yy)	Experience and qualifications relevant to the proposed contract; i.e., "designed drainage", "designed girders", "designed intersection", etc. Experience dates should cover the years of experience specified in the applicable MPR(s).
01/18 - 10/18	I-10 Widening, LA30 - LA22, Ascension Parish, LA (H.009276) This project involves the widening of a five mile segment of I-10, including two girder bridge structures and one slab span structure as well as the replacement of the LA 941 bridge structure. Joshua was responsible for checking the longitudinal reinforcing design of the slab span bridge as well as the reinforcement of the new LA 941 bridge. He was also responsible for a preliminary bridge quantity estimate for the LA 941 overpass. All design was performed with the AASHTO LRFD guidelines and LA DOTD's Bridge Design and Evaluation Manual.
01/28 - Ongoing	I-220/I-20 Interchange Improvements and BAFB Access Design-Build, Bossier Parish, LA (H.003370) The project consists of constructing a new four-lane rural arterial extending from the existing I-220 terminus north of I-20 southward to a terminus within Barksdale Air Force Base. This includes an elevated section which will cross the Kansas City Southern Railway (KCS RR). Joshua was responsible for checking the cross sections and the drainage design of the project area.
01/18 - 05/20	I-10 Corridor Improvements (LA 415 to Essen Lane) Environmental Assessment, West and East Baton Rouge Parish, LA (H.004100) Joshua assisted in the development of the proposed vertical profiles for the Perkins Drive through Acadian Throughway section of the corridor. He was responsible for the identification of critical points of clearance along this region and the corresponding impacts to the design Profile Grade Line. He was also responsible for developing construction sequencing for the removal of the straddle bent over the Kansas City Rail Road overpass.

Joshua Olivier resume continued

<p>01/18 - 06/20</p>	<p>I-10: Highland to LA 73 Design-Build Project, E. Baton Rouge and Ascension Parish, LA (H.009250) The project includes widening I-10 for 6.6 miles to three-lanes in each direction from the Highland Road Interchange to the LA73 Interchange. The I-10 bridges over Highland Road and approaching roadway are being replaced with a new structure and profile grade. Joshua assisted in the drainage design and was responsible for checking the graphical grade design for the mainline and ramps. Additionally, he prepared details for the size and placement of several overhead exit signs along the route. During construction, he revised the lane shift stations to accommodate unanticipated site-specific limitations.</p>
<p>06/19 - Ongoing</p>	<p>Belle Chasse Bridge and Tunnel Replacement, Plaquemines/Jefferson Parish, LA (H.004791) This project consists of constructing a new bridge crossing the Intracoastal Waterway to replace the existing tunnel and vertical lift bridge. Joshua created the existing and design drainage maps, checked calculations for open ditch and subsurface drainage systems, and calculated roadway stormwater spread impacts. He also reviewed and recommended shop drawings for approval for proposed drainage structures such as inlets, catch basins, and manholes during construction.</p>
<p>06/19 - Ongoing</p>	<p>I-220/I-20 Interchange Improvements and BAFB Access Design-Build, Bossier Parish, LA (H.003370) The project consists of constructing a new four-lane rural arterial extending from the existing I-220 terminus north of I-20 southward to a terminus within Barksdale Air Force Base. This includes an elevated section which will cross the Kansas City Southern Railway (KCS RR). Joshua reviewed the horizontal and vertical geometric design and calculations for compliance with LA DOTD and AASHTO Green Book guidelines.</p>
<p>09/15 - Ongoing</p>	<p>I-49 South: US 90 and Ambassador Caffery Interchange, Lafayette Parish, (H.002868) This new interchange will be constructed on future I-49 at Ambassador Caffery Parkway interchange in Lafayette, LA. Joshua was responsible for checking the final drainage design for the six major cross drains proposed in the project. Joshua was also responsible for checking column quantities for the bridge plans.</p>

Section 17

Engineering and Related Services for LA 44: Pelican Point Roundabout and Widen

LA 347: Roundabout at Melancon Road (St. Martin Parish)

Completed roundabout at the
intersection of LA 347 and Doyle
Melancon Road as part of LA DOTD
Project H.009456 (construction plans
prepared by Sigma).



17. Firm Experience:

Firm Name	Project	Past Performance Evaluation Discipline
Sigma Consulting Group, Inc. (A Waggoner Company)	Hooper Road Widening (LA408) Blackwater - Joor (H.002316)	Road
	LA 347: Roundabout at Melancon Rd. (H.009456)	Road
	I-10: LA 347 to Atchafalaya Floodway Bridge (H.003014)	Road
	I-10: LA 415 to Essen Lane on I-10 & I-12 CMAR (H.004100)	Road
	Pecue Lane/I-10 Interchange - Phase III (H.003047)	Bridge
Vectura Consulting Services, LLC	Roundabout: US 171 at Boone St. (H.011909.5-4)	Traffic
	LA 30 Roundabouts at Tanger I-10 (H.010960.5)	Traffic
	I-12 to Bush - LA 3241 (I-12 - LA 36) Corridor Study	Traffic

Firm Name	Sigma Consulting Group, Inc. (A Waggoner Company)		Past Performance Evaluation Discipline(s)	Road
Project Name	Hooper Road Widening (LA408) Blackwater - Joor		Firm responsibility (prime or sub?)	Prime
Project Number	H.002316/H.002317		Owner's Name	EBR DTD
Project Location	East Baton Rouge Parish		Owner's Project Manager	Tom Stephens, PE
Owner's address, phone, email	PO Box 1471, Baton Rouge, LA 70821 225.389.3186 TStephens@brla.gov			
Services commenced by this firm (mm/yy)	10/12	Total consultant contract cost (\$1,000's)	\$1,818.0	
Services completed by this firm (mm/yy)	Ongoing	Cost of consultant services provided by this firm (\$1,000's)	\$1,111	

Project Description: Sigma was contracted by East Baton Rouge Parish DOTD, in cooperation with the FHWA and LA DOTD, to provide NEPA environmental documentation, planning, and preliminary engineering for the improvements to the Hooper Road existing two-lane rural roadway from Blackwater Road to Sullivan Road in Central, LA. DOTD is proposing capacity and safety upgrades to the corridor using a four-lane urban boulevard, subsurface drainage and pedestrian accessibility.

As part of the NEPA Environmental Assessment, Sigma performed the roadway planning, natural and human environment data assimilation, determining cumulative impacts, conceptual relocation plans, alternative development, public involvement, and NEPA document preparation. Sigma ran public meetings to gather community input on the project. A Finding of No Significant Impacts (FONSI) was issued for this project in December 2018. Sigma performed preliminary, **conceptual design for roundabouts at several intersections** along the corridor: Blackwater Road, Lovett Road, and Joor Road.

Sigma is now developing final design and construction plans for the segment from Blackwater Bayou to Joor Road, including the **final geometrics of a new, two-lane roundabout** at Lovett Road. With a dynamic DTM of the proposed corridor, Sigma can make adjustments to minimize impacts. Full roadway plans for the **four-lane boulevard with a raised median** are being developed using LA DOTD design criteria.

Environmental Assessment (NEPA Compliant)

- Lead Environmental Consultant
- Alternative Alignments/Line & Grade
- Alternative Conceptual Sections
- Right-of-Way, Environmental & Residential Impacts
- Public Involvement

Surveying

- Topographic Survey
- Property Survey
- Right of Way Maps

Plan Development

- Roundabout Design
- **Urban Road Design**
- **Open Ditch & Subsurface Drainage Design**
- Utility Relocation
- **MOT**
- Signing & Striping

Team Members Involved

Joshua Renard
Bryan Harmon
Miles Williams
Robbie Lear
Brandon Bourgoyne
Alex Farr
Joshua Olivier

Project Similarities

- Roundabout Design
- Interchange Design
- **Urban Road Design**
- Drainage Design
- Utility Relocation
- MOT



Firm Name	Sigma Consulting Group, Inc. (A Waggoner Company)		Past Performance Evaluation Discipline(s)	Road
Project Name	LA 347: Roundabout at Melancon Rd.		Firm responsibility (prime or sub?)	Prime
Project Number	H.009456		Owner's Name	LA DOTD
Project Location	St. Martin Parish		Owner's Project Manager	Christina Brignac, PE
Owner's address, phone, email	PO Box 94245, Baton Rouge, LA 70806 225.379.1445 Christina.Brignac@la.gov			
Services commenced by this firm (mm/yy)	01/14	Total consultant contract cost (\$1,000's)	\$297.9	
Services completed by this firm (mm/yy)	12/16	Cost of consultant services provided by this firm (\$1,000's)	\$297.9	

Project Description: This project included full topographic surveying, right-of-way mapping, and **road design for a new single lane roundabout** in Breaux Bridge, LA.

Sigma **designed a single-lane, four-legged roundabout** at the intersection of LA 347 and Doyle Melancon Rd./Extension. The design of the project is in conformance with EDSM VI.1.1.6, along with all recommendations from the project roundabout study. The project included relocation of a large drainage ditch and 72-inch CMPA subsurface drainage. The geometrics were designed to eliminate impacts to a significant oak tree at the southeast quadrant of the intersection.

The topo survey included topography of the existing roadway, drainage features, existing utilities and roadside features. Sigma coordinated with the DOTD District 03 Utility Coordinator and utility owners for utility impacts to the project. Right of way maps were also prepared by Sigma.

Topographic/Property Survey & R/W Maps

- GPS Control Sketch
- Field Topography
- Property Survey
- Title Research Reports
- Right of Way Maps
- Utility Coordination: QL-D and QL-C
- Topographic Mapping with INROADS Survey

Road Design (Preliminary & Final Plans)

- Horizontal & Vertical Geometry/Design Report
- Typical Sections
- Geometric Details
- Plan/Profiles
- Drainage Design
- Cross Sections
- Permanent Signing & Striping
- Construction Sequencing
- Engineer's Construction Cost Estimate & Quantities
- Microstation/CADconform Plan Delivery

Team Members Involved

- Robbie Lear**
- Alex Farr**
- Miles Williams**
- Joshua Renard**

Project Similarities

- Microstation/CADconform
- Project Similarities
- Roundabout Design
- Interchange Design
- Urban Road Design
- Open Ditch & Subsurface Drainage Design
- Utility Relocation
- MOT



Firm Name	Sigma Consulting Group, Inc. (A Waggoner Company)		Past Performance Evaluation Discipline(s)	Road
Project Name	I-10: LA 347 to Atchafalaya Floodway Bridge		Firm responsibility (prime or sub?)	Prime
Project Number	H.003014		Owner's Name	LA DOTD
Project Location	St. Martin Parish		Owner's Project Manager	Nick Olivier, PE
Owner's address, phone, email	PO Box 94245, Baton Rouge, LA 70806 225.0379.1133 Nicholas.Olivier@la.gov			
Services commenced by this firm (mm/yy)	06/13	Total consultant contract cost (\$1,000's)	\$852.7	
Services completed by this firm (mm/yy)	07/22	Cost of consultant services provided by this firm (\$1,000's)	\$852.7	

Project Description: Sigma is the prime consultant for this project which includes topographic and control surveying, interstate highway design, **diamond interchange design with roundabouts at the ramp termini**, and roadway improvements to LA 347.

Sigma performed the topographic survey which includes four bridges, a wooded median, drainage structures and outfalls, interchanges, roadways along LA347 and LA352, and utility crossings. LA DOTD survey and linework codes were used in the field. Sigma used Inroads Survey, CADconform, and LA DOTD codes to prepare the topographic map and required .fwd, .dtm, and .alg files for this project.

The interstate design includes three lanes in the WB direction and two lanes in the EB direction separated by either a median barrier or a wooded median. A complex sequence of construction was developed to allow for **construction of new ramp termini at LA 347 with roundabouts** and to handle traffic at the Atchafalaya Basin Bridge for approach slab construction. **Sigma coordinated closely with DOTD Bridge Design section (Andrew Windmann, now with Sigma, was the lead designer)**, which was responsible for bridge widening at two locations. Detailed hydraulic analysis of the outfall channel adjacent to LA352 including HEC-RAS modeling was conducted by Sigma to alleviate flooding problems at the interchange.

Sigma assembled the multi-discipline plan set, quantities, pay items and worked with DOTD Project Management to develop the estimated construction costs. Sigma is currently providing construction support.

Road Design (Preliminary & Final Plans)

- Expedited Schedule
- Interstate Highway Design
- **Interchange Design - Roundabout Design**
- Typical Sections - PCC and Asphalt Alternatives
- **Open Ditch and Subsurface Drainage Design**
- **Plan Profiles**
- **Geometric Details**
- **Complex Sequence of Construction**
- Level 4 Traffic Management Plan
- **Cross Sections**
- Permit Sketches
- Coordinated Roadway Lighting with Sub
- **Utility Conflict Matrix and Coordination with District Utility Engineer**
- Construction Support
- **Multi-Discipline Plan, Pay Item, Cost Estimate Assembly**
- QA/QC Checklist

Team Members Involved

- Robbie Lear**
- Alex Farr**
- Miles Williams**
- Bryan Harmon
- Joshua Renard**

Project Similarities

- Roundabout Design
- Interchange Design
- Road Design
- Drainage Design
- Utility Relocation
- MOT



Firm Name	Sigma Consulting Group, Inc. (A Waggoner Company)		Past Performance Evaluation Discipline(s)	Road
Project Name	I-10: LA 415 to Essen Lane on I-10/I-12 (CMAR)		Firm responsibility (prime or sub?)	Sub
Project Number	H.004100.5		Owner's Name	LA DOTD
Project Location	East Baton Rouge & West Baton Rouge Parishes		Owner's Project Manager	Nicholas Olivier, PE
Owner's address, phone, email	PO Box 94245, Baton Rouge, LA 70806 225.379.1133 Nicholas.Olivier@la.gov			
Services commenced by this firm (mm/yy)	10/20	Total consultant contract cost (\$1,000's)	\$29,583	
Services completed by this firm (mm/yy)	Ongoing	Cost of consultant services provided by this firm (\$1,000's)	\$4,170	

Project Description: Sigma is serving as the lead roadway design team member for the COREX10 Design Team for this \$1 billion+ Construction Manager at Risk (CMAR) Project to increase capacity and improve safety on I-10 in East Baton Rouge and West Baton Parishes. This project is a transformational transportation improvement for the Capital Region being delivered in a tight time frame by an alternative delivery process.

Currently, the COREX10 Design Team and the CMAR Contractor, Kiewit-Boh, are under contract to deliver Segment 1; improvements to I-10 from the I-10/I-110 Interchange through the Acadian Thruway Interchange. The work consists of eight laning I-10 for 2.6 miles with **modifications to interchanges, including roundabouts at two locations** and adjacent surface streets. This segment includes complex geometric design, replacement of all mainline bridges and pavements, Sigma led the design coordination for this project and performed all **roadway design, maintenance of traffic design, transportation management planning, subsurface utility investigations and utility coordination**. Sigma also assisted in the public and stakeholder information outreach which included three meetings and coordinated outreach.

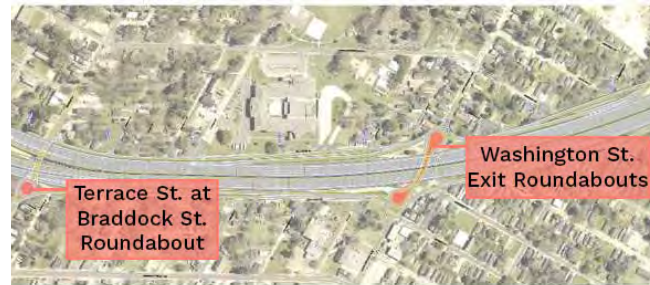
The project consisted of six-laning I-10 for 6.8 miles between the Highland Road Interchange and LA 73. The first 3.6 miles is an urban section with a concrete median barrier, a portion of which has the road design components include typical sections, horizontal and vertical geometrics with existing bridge structures constraining the design parameters, geometric details, and a detailed analysis of the sequence of construction that will maintain two-lanes of traffic in each direction.

Project Similarities

- Roundabout Design
- Interchange Design
- Road Design
- Drainage Design
- Utility Relocation
- MOT

Team Members Involved

- Miles Williams**
- Robbie Lear**
- Alex Farr**
- Bryan Harmon
- Joshua Olivier**
- Joshua Renard**
- Kelsie Bankston**
- Charlotte Gremillion**
- Brandon Bourgoyne**



Firm Name	Sigma Consulting Group, Inc. (A Waggoner Company)		Past Performance Evaluation Discipline(s)	Bridge
Project Name	Pecue Lane/I-10 Interchange - Phase III		Firm responsibility (prime or sub?)	Sub
Project Number	H.003047		Owner's Name	EBR DTD
Project Location	East Baton Rouge Parish, LA		Owner's Project Manager	Tom Stephens, PE
Owner's address, phone, email	PO Box 1471, Baton Rouge, LA 70821 225.389.3186 TStephens@brla.gov			
Services commenced by this firm (mm/yy)	02/16	Total consultant contract cost (\$1,000's)	Unknown	
Services completed by this firm (mm/yy)	09/19	Cost of consultant services provided by this firm (\$1,000's)	\$750	

Project Description: East Baton Rouge Parish with assistance from the Department of Transportation and Development (DTD) and the Federal Highway Administration (FHWA) is developing preliminary and final engineering plans for the construction of a diverging diamond interchange with multiple through and turn lanes on Pecue Lane, an entrance ramp and exit ramp on eastbound I-10, an entrance ramp and exit ramp on westbound I-10, replacing the current two lane overpass bridge, replacing the Pecue Lane/Wards Creek Bridge.

Sigma is contracted to Shread-Kuyrkendall & Associates, Inc. to provide design services to the East Baton Rouge Parish Department of Transportation and Drainage. Specifically, Sigma's scope includes the **evaluation and design** of parallel bridges along Pecue Lane over Wards Creek, and the **evaluation and widening** of the I-10 bridges over Wards Creek to accommodate the on/off ramps. **Unique geometric needs**, along with considerations for a new multi-use pathway beneath the first span of the new bridges required special attention to detail and elevations during final plan development. As-designed LRFR bridge ratings were provided for all bridges involved in this project.

Sigma is currently providing ongoing construction related engineering services (CRES) on the bridge-related contractor submittals. Services include the review of structural fabrication drawings for components designed by Sigma, review of contract Requests for Information (RFIs), and review of contractor plan modifications from changes in field condition.

Bridge Design

- LRFD Design
- Superstructure & Substructure Design
- AASHTO prestressed-precast concrete girders (widening)
- Slab spans
- Concrete bent cap supported on PPC piles
- LRFR bridge rating
- Construction phasing

Team Members Involved
Miles Williams
Josh Olivier

Project Similarities

- Bridge Evaluation
- Phased Slab Construction with Unique Geometry
- Widening of Existing Structure
- Load Rating



Firm Name	Vectura Consulting Services, LLC	Past Performance Evaluation Discipline(s)	Traffic
Project Name	Roundabout: US 171 at Boone Street	Firm responsibility (prime or sub?)	Sub
Project Number	H.011909.5	Owner's Name	DOTD
Project Location	Vernon Parish, LA	Owner's Project Manager	Josh Harrouch
Owner's address, phone, email	PO Box 94245 Baton Rouge, LA 70804-9245 225.242.4640 Joshua.Harrouch@la.gov		
Services commenced by this firm (mm/yy)	04/17	Total consultant contract cost (\$1,000's)	unknown
Services completed by this firm (mm/yy)	12/20	Cost of consultant services provided by this firm (\$1,000's)	\$82.045

Project Description: Vectura designed temporary traffic signal plans as part of the sequence of construction plan for a roundabout construction at the intersection of US 171 at Boone Street in Leesville, LA. The purpose of the project was to replace the existing signalized intersection with a multi-lane roundabout at Boone Street.

Temporary Traffic Signal Design

Vectura performed following design tasks to develop temporary traffic signal plans:

- Detailed study of sequence of construction plans to determine the optimal traffic signal operation and required traffic signal equipment for each sequence of construction phase
- Reviewed potential access issues for all the impacted driveways/ streets along the project area for each sequence of construction phase
- Developed multiple traffic signal timing plans by time of day for each sequence of construction phase to maintain progression along main corridor
- Developed temporary signal plans including pole and span wire layout, signs, striping, power source, signal timings by time of day, vehicle detection, signal head placement, wiring diagram, pole height calculations, clearance calculations, quantities, construction cost estimate
- Coordinated with DOTD Traffic Section and District Traffic Engineer

Quality Control Review

Vectura provided Quality Control review of signing and striping plans at 30% and 60% plan sets to ensure the roundabouts conformed to the Pavement Markings Details Sheet PM-09 and the Manual on Uniform Traffic Control Devices (MUTCD) details on roundabouts.

Project Similarities

- Temporary Traffic Signal Design for Roundabout Project
- MOT

Team Members

Involved

Brin Ferlito
Laurence Lambert

Firm Name	Vectura Consulting Services, LLC	Past Performance Evaluation Discipline(s)	Traffic
Project Name	LA 30 Roundabouts at Tanger I-10	Firm responsibility (prime or sub?)	Sub
Project Number	H.010960.5	Owner's Name	DOTD
Project Location	Ascension Parish, LA	Owner's Project Manager	Josh Harrouch
Owner's address, phone, email	PO Box 94245 Baton Rouge, LA 70804-9245 225.242.4640 Joshua.Harrouch@la.gov		
Services commenced by this firm (mm/yy)	04/17	Total consultant contract cost (\$1,000's)	unknown
Services completed by this firm (mm/yy)	12/20	Cost of consultant services provided by this firm (\$1,000's)	\$ 153,294

Project Description: Vectura designed temporary traffic signal plans that will be implemented during construction of the three roundabouts along LA 30 in Gonzales, LA. The project involves replacing three existing signalized intersections with multi-lane roundabouts along LA 30 at I-10 Interchange ramps and at the Tanger Boulevard. Vectura also provided Quality Control review of construction plans.

Quality Control Review

Vectura provided Quality Control review of signing and striping plans at 30% and 60% plan sets to ensure the roundabouts conformed to the Pavement Markings Details Sheet PM-09 and the Manual on Uniform Traffic Control Devices (MUTCD) details on roundabouts.

Team Members Involved
Brin Ferlito
Laurence Lambert

Temporary Traffic Signal Design

Vectura performed following design tasks to develop temporary traffic signal plans:

- Detailed study of sequence of construction plans to determine the optimal traffic signal operation and required traffic signal equipment for each sequence of construction phase
- Reviewed potential access issues for all the impacted driveways/streets along the project area for each sequence of construction phase
- Developed multiple traffic signal timing plans by time of day for each sequence of construction phase to maintain progression along main corridor
- Developed temporary signal plans including pole and span wire layout, signs, striping, power source, signal timings by time of day, vehicle detection, signal head placement, wiring diagram, pole height calculations, clearance calculations, quantities, and construction cost estimate
- Coordinated with DOTD Traffic Section and District Traffic Engineer

Project Similarities

- Temporary Traffic Signal Design for Multiple Roundabouts in Close Proximity
- One Exit from the LA 44 Interchange - Consistent Design to Meet Driver Expectations
- MOT

Firm Name	Vectura Consulting Services, LLC	Past Performance Evaluation Discipline(s)	Traffic
Project Name	I-12 to Bush - LA 3241 (I-12 - LA 36) Corridor Study	Firm responsibility (prime or sub?)	Sub
Project Number	H.004957.5	Owner's Name	DOTD
Project Location	Lacombe, LA	Owner's Project Manager	Joachim C Umeozulu, PE
Owner's address, phone, email	1201 Capitol Access Road, Baton Rouge, LA 70802 225.379.1386 Joachim.Umeozulu@la.gov		
Services commenced by this firm (mm/yy)	09/16	Total consultant contract cost (\$1,000's)	\$1,895
Services completed by this firm (mm/yy)	05/17	Cost of consultant services provided by this firm (\$1,000's)	\$84

Project Description: As part of the DOTD TIMED program, Vectura prepared a formal traffic study for the new alignment of LA 3241. The traffic study examined concepts that improved the safety and efficiency of the roadway consistent with the latest DOTD policies related to access management and complete streets. The study included analyses for **intersection and corridor improvements** such as median openings, spacing of openings, signalized, unsignalized and **roundabout intersections**.

- **Intersection alternatives** included restricted median openings, signalized and unsignalized intersections, median u-turns at existing signal locations, **restricted crossing u-turn (RCUT) intersections, and roundabouts**
- Developed Vissim model of the preferred corridor layout
- Developed Draft Traffic Study Report (3 copies)

Team Members
Involved
Brin Ferlito
Laurence Lambert

Task 1: Data Collection: Vectura collected the following traffic data for 10 intersections:

- 7-day (mainlines) and 2-day (side streets) 24-hour tube counts with vehicle classification
- Turning movement counts for morning and evening peak periods
- 15-minute driveway counts
- Traffic Signal warrants, radar speed studies and sight distance evaluation
- Developed growth rate methodology and AM and PM peak forecast traffic volumes

Task 3: Safety Analyses

Project Similarities

- Roundabout Intersection
- Traffic Engineering
- TMP Review

Task 2: Traffic Study: This task included a **roundabout study** as defined in EDSM VI.1.1.5, VI.1.1.1 and DOTD Traffic Engineering Manual Section 20.2.

This task included the following elements:

- Perform Vistro and Sidra analyses for existing conditions
- Perform Vistro and Sidra analyses for Implementation and Design Years



Section 18

Engineering and Related Services for LA 44: Pelican Point Roundabout and Widen

LA 347 - Eastbound Ramp Roundabout (St. Martin Parish)

Completed roundabout at the
Eastbound on and off ramp at the
I-10/LA 347 Interchange (construction
plans prepared by Sigma).



18. **Approach and Methodology:**



PROJECT BACKGROUND AND UNDERSTANDING

Sigma has a clear understanding of the LA 44: Pelican Point Roundabout and Widening project. We have read the Roundabout Justification Report for the LA 44 Corridor Study (I-10 to LA 22) and recognize the constraints, and alternatives have been studied. We also have studied the H.010909 - LA 44: Widening and Roundabout at LA 941 project plans, as well as the DOTD Permit job #61030699 - LA Highway 44 Intersection Improvements for Conway Development to ensure continuity is maintained along this corridor.

Project Goals: Recent and planned major residential and mixed-use developments south of I-10 on LA 44 have generated and are expected to create continued significant growth. This growth has been studied and has shown to have significant negative operational and safety impacts to the existing corridor. This project will focus on the middle portion of the corridor near the Pelican Point and Pelican Crossing subdivision entrances. Previous studies have identified traffic mitigation opportunities in the form of a single two-lane roundabout installed at the Pelican Point subdivision entrance on LA 44. In addition to this installation, LA 44 will be widened to four lanes with a six-foot median to match the other segments of the corridor. To fully achieve this objective, the existing slab bridge over Panama Canal will require widening or replacement with a wider bridge.

Key Goals: Install two-lane roundabout at the Pelican Point subdivision entrance and widen LA 44 to four lanes to reduce localized and overall traffic queues and delays while also improving safety along the corridor.

Critical Design Elements: A major factor that will be considered during every stage of this project is the maintenance of traffic during construction. Providing continuous access to both subdivisions from LA 44, as well as minimizing negative impacts to existing traffic operation is recognized as a mandatory item. Fortunately, **Sigma** has specific experience with installing new two-lane roundabouts for planned widened corridors, while maintaining traffic access throughout construction. This experience is shown via DOTD Project H.002316 - Hooper Road (LA 408) Widening from Blackwater Road to Sullivan Road, which is further detailed in Section 17 of this proposal.

Key Challenges: Upgrading and widening the existing roadway while maintaining through traffic and access to two adjacent subdivisions, along with roadway drainage consideration throughout construction.

Sigma's understanding of the project goals coupled with our previous success in delivering DOTD roundabout projects with the same requirements as LA 44: Pelican Point Roundabout and Widening provides DOTD with a highly qualified candidate for selection.



APPROACH AND METHODOLOGY

Scope and Task Development: Immediately after selection, Sigma will work with the DOTD Project Manager to develop the contract scope and items necessary to deliver the project. We will work with the project manager, Jacob Fusilier, to develop the blank man-hour spreadsheet, sheet count, and conceptual delivery schedule. This early coordination ensures that both DOTD and Sigma are on the same page with respect to project goals, deliverables, and expectations. Once these items are established, independent man-hour estimates will be completed for negotiated fee determination.



Kick-Off Meeting/Pre-Design Planning Conference and Work Planning:

Once a Notice to Proceed is issued, Sigma and the DOTD will hold a project kickoff meeting, preferably in person. The appropriate DOTD and **Sigma** team members will walk through the project scope, discuss the items listed in the Reconnaissance Evaluation/Pre-Design Planning Conference form, determine the dates for milestone deliverables, and estimate DOTD review periods at each milestone. The project design criteria, Stage 0 identified environmental constraints, and safety concerns will also be discussed and documented. Any DOTD provided services such as as-builts, latest structure inspection, and load rating reports, topographic survey, pavement design, environmental permitting needs, etc. will be requested at this meeting. All project points of contact with contact information will be collected and minutes of the meeting will be distributed to all pertinent personnel.



Preliminary and Final Plan Preparation: The preliminary and final plan development process will typically follow the Road Design Tasks for Completion Milestones chart shown as Figure 1-03 in the DOTD Road Design Manual. Milestone submittals will be made at the 60%, 90%, and 100% Preliminary Plan (PP) stages and at the 60%, 95%, and stamped/signed 98% Final Plan (FP) stages. These submittals will include plans and associated calculations as defined in the advertisement. **Work will not commence on final plans until Environmental Clearance is received from Federal**

Highway Administration (FHWA). Bridge and roadway design will work in conjunction to ensure that the approach roadway and proposed bridge section are compatible, including during intermediate construction stages that will be required.

All required documentation such as review comments and responses, QA/QC certifications, constructability review forms, opinions of probable construction cost (OPCC), and calculations will be submitted with each appropriate delivery milestone. A final OPCC will accompany the final plan submittal, including all required special provisions and NS-Item specification write-ups.

Key Milestones:

- **60% PP** - Geometry review-establish limits of construction, drainage review, initiate environmental review with established project footprint, initiate geotechnical field investigation, initiate property survey, **preliminary bridge concept (from Evaluation Report)**, sequence of construction
- **90% PP** - Project team site visit, review for constructability, finalize required right-of-way (R/W)
- **100% PP** - Finalize property survey and base R/W Maps
- **Environmental Clearance** - Clears the team to move into final design and plan development
- **60% FP** - Initiate bridge final design, drainage review
- **Joint Plan Review** - Meet with Location Survey, finalize R/W maps
- **90% FP** - Final plan review meeting with project team, bridge design, and details majorly complete
- **98% FP** - Full-sized sealed plans, final QC/QA forms, final calculations and files, final special provisions, and final construction cost estimate



Road and Drainage Design: The DOTD Minimum Design Guidelines and recommended conceptual layouts from the Roundabout Justification Report will be reviewed and updated as necessary.

Design Reports will be prepared for each functional class of roadway. The DOTD Road Design Manual, American Association of State Highway and Transportation Officials (AASHTO) Green Book 2018, Roadside Design Guide, DOTD Hydraulics Manual, and accepted DOTD reference material will be used to guide the road design process. DOTD's HydroWin software will be the primary tool for open ditch, storm drain systems, and cross drain design on the project.

We recommend incorporating recently published information from NCHRP Research Report 1043 - Guide for Roundabouts (2023) where practical. These suggestions include:

- Pedestrian/bicycle accommodations and incorporating the latest safety and quality of service features (Chapter 4)
- Conduct performance checks for roundabouts to ensure the design incorporates the necessary principles and safety features such as stopping and intersection sight distances, view angles, fastest path, speed control, design vehicle accommodation, and bicycle/pedestrian wayfinding and crossing assignments (Chapter 9)

The preliminary plan phase will focus on establishing the horizontal and vertical geometrics, typical sections, drainage design, cross sections, and conceptual sequence of construction components. The final plans phase will provide full details and quantity computations for the project. Special attention will be given to the phasing of the roundabout and phasing of the Panama Canal bridge. Order of sequencing will be crucial to maintain traffic operations. In addition to drainage design for the final configuration, drainage during construction will be analyzed and mitigated in the plans.



Bridge Evaluation and Design: Prior to commencing plan development, a comprehensive bridge evaluation report will be completed in accordance with Bridge Design Section's Design Policy for Bridge Rehabilitation/Repair Projects found in the Bridge Design & Evaluation Manual (BDEM) Part I, Chapter 6. Sigma will adhere to the procedures prescribed in this policy beginning with the collection of existing data, quickly followed by a field visit to verify the data and any notes provided therein.


Sigma will create a load and resistance factor rating (LRFR) for the current-condition bridge ratings of the bridge components in accordance with AASHTO Manual for Bridge Evaluation, BDEM Part II, Volume 5 - Bridge Evaluation/Rating, and applicable Base District Traffic Models (BDTMs). The results of these load ratings will guide the required scope for rehabilitation. One known component that will require replacement per the advertisement is the bridge railing. The existing post and rail bridge railing will be upgraded to MASH TL-4 compliant 36-inch single-slope barriers. This change in barrier types will likely require strengthening of the existing slab to accommodate the increased dead and extreme event collision load demand.

The cost of the identified rehabilitation work will be compared to the cost of replacing an equivalent structure size. The results of these analyses and scope recommendations, including all reference information, field notes and observations, and identified deficiencies will be summarized in a draft bridge evaluation report for DOTD's review and final decision. Upon review, the report will be finalized and submitted for record.

 **Structure Widening Analysis:** Widening design and analysis will commence concurrently with preliminary roadway plans.


Understanding the mechanisms of how the load will transfer between the existing and newly widened portion of the structure is crucial. The existing load paths should not be altered drastically. The existing transverse reinforcement will need to be adequate to lap splice onto. All new components and all existing components of the bridge who's loading is affected by the widening will be designed and/or analyzed with the latest AASHTO LRFD Bridge Design Specifications, supplemented by the latest version of the BDEM, archived Bridge Manuals, and BDTMs. The proposed new structure components will match the existing structure in type, depth, and substructure size to maintain relatively uniform global stiffness.

Ultimately, the structure's ability to accommodate the required traffic phasing along LA 44 across the bridge, while considering potential constraints of the construction phasing will dictate the feasibility of widening versus replacement. Conceptual sequencing details will be created and shown in the bridge evaluation report and further detailed later in the bridge construction plan development.

 **Construction Plans:** Preliminary design and plans will be created focusing on the bridge structure type, size, and location that adheres to the outcome of the Bridge Evaluation report previously approved and an established Bridge Design criteria document that outlines all assumptions for either the rehabilitated or replacement structure. During this phase, the sequence of construction will be created and provided in the plans satisfying any clearances required by hydraulic analysis. Plan notes will be included to inform the contractor of the communication information and necessary accommodation for a new USGS stream gage to replace the existing.


During the final plan stage, final structure design and construction details will be developed, with a focus on cost and constructability. Material details such as rebar, bearing pads, joint types, and layout, will be finalized, quantified,


and specified. LRFR as-designed ratings for each required component will be prepared for the new bridge structure. A final calculation package will then be submitted in accordance with Bridge Design's Policy for QC/QA.

 **Maintenance of Traffic Plans and TMP Level 2:** Construction sequencing and maintenance of traffic will be a critical component of this project. Keeping access open to both subdivisions during the life of construction is the critical challenge to this project. Their close proximity further complicates the construction sequencing, especially for left turn movements.

The project team will develop the Level 2 TMP in accordance with EDSM VI.1.1.8. All key team members developing MOT plans have received Traffic Control Supervisor (TCS) training. **Sigma** has experience in developing multi-phased sequencing for road construction, including roundabouts.

Sigma is complemented by Vectura who will provide any traffic analysis and traffic studies required if a Level 3 TMP is necessary. Vectura has experience in preparing Level 3 TMP analyses including queue analyses for lane closures on interstates, safety analyses as per DOTD procedures, and all other study requirements listed in this Advertisement.

 **Opinion of Probable Construction Costs, Pay Items and Quantities:** Opinions of probable construction costs (OPCC) will be prepared, beginning at the 90% Preliminary Plan submittal and updates will be included with every subsequent submittal. Each update will have a further refined cost estimate with less contingency assumed. The **Sigma** design professionals have extensive experience in the DOTD purple book, pay item list, special provisions, and developing specifications for non-standard items. We have experience with and understand the requirements for breaking down quantities by construction funding sources and control sections, as well as by DOTD asset (i.e., bridge structure).

 **Quality Assurance/Quality Control (QA/QC):** Sigma proposes to utilize our currently implemented quality control plan for this contract, which includes DOTD's QA/QC requirements and forms. Built around DOTD's philosophy and internal QA/QC plans, the key components to this plan include communication, redundancy, and application of experience.

Project Schedule: Sigma has worked on numerous large-scale DOTD projects and understands the delivery and production processes for these types of projects. This allows us to “hit the ground running” and accelerates the project initiation phase, which is a large part of the work effort. We have prepared a schedule of the major milestones and deliverables anticipated in this contract.

Conclusion: Sigma has experience providing all the elements described in the Scope of Services to DOTD. With our knowledge of DOTD procedures and practices, **Sigma** provides a design consultant with an unparalleled depth of hands-on experience, technical expertise, and capability to perform the services needed within budget and on time.

Name	Duration (days)	2024				2025				2026			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
H.015568 LA 44: Pelican Point Roundabout and Widen	743	H.015568 LA 44: Pelican Point Roundabout and Widen											
Project Kickoff and Initiation	45	[Green bar from Q1 2024 to Q1 2024]											
Panama Canal Bridge Evaluation	136	[Green bar from Q1 2024 to Q2 2024]											
Preliminary Plans	349	[Red bar from Q1 2024 to Q3 2024]											
60% Preliminary Plans	180	[Green bar from Q1 2024 to Q2 2024]											
60% DOTD Review and Comment	28	[Blue bar from Q3 2024 to Q3 2024]											
90% Preliminary Plans	90	[Green bar from Q2 2024 to Q3 2024]											
90% DOTD Review and Comment	21	[Blue bar from Q3 2024 to Q4 2024]											
100% Preliminary Plans	30	[Green bar from Q3 2024 to Q4 2024]											
Environmental Clearance	45	[Green bar from Q4 2024 to Q1 2025]											
Final Plans	349	[Red bar from Q2 2025 to Q3 2025]											
60% Final Plans	150	[Green bar from Q2 2025 to Q3 2025]											
60% DOTD Review and Comment	21	[Blue bar from Q3 2025 to Q4 2025]											
95% Final Plans	90	[Green bar from Q3 2025 to Q4 2025]											
95% DOTD Review and Comment	28	[Blue bar from Q4 2025 to Q1 2026]											
98% Final Plans (Signed and Sealed)	60	[Green bar from Q1 2026 to Q2 2026]											
Final Calculations, Files, Load Rating Report	60	[Green bar from Q1 2026 to Q2 2026]											

Sections 19 - 23

Engineering and Related Services for LA 44: Pelican Point Roundabout and Widen

LA 347: Roundabout at Melancon Road (St. Martin Parish)

Completed roundabout at the intersection of LA 347 and Doyle Melancon Rd. as part of LA DOTD Project H.009456 (construction plans prepared by Sigma).

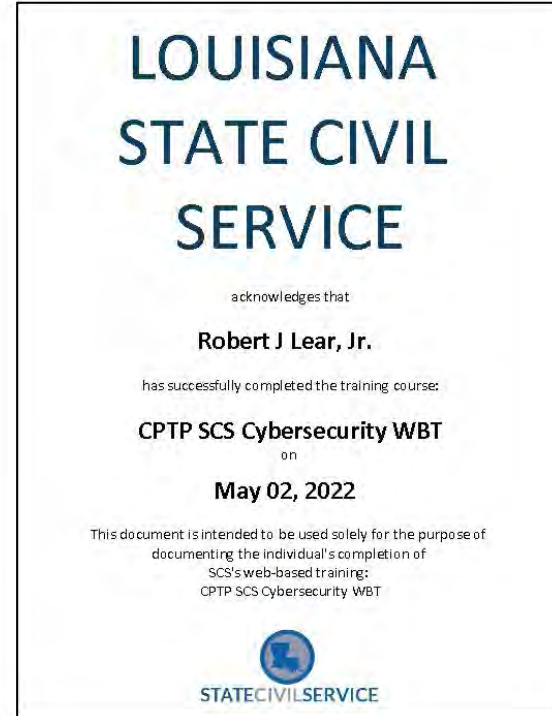


19. Workload:

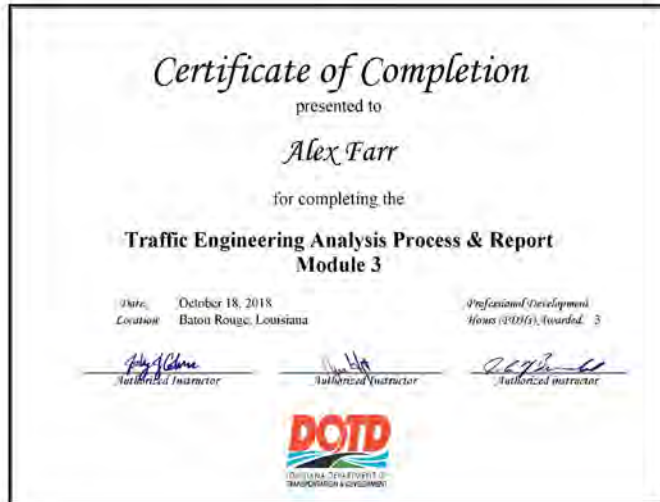
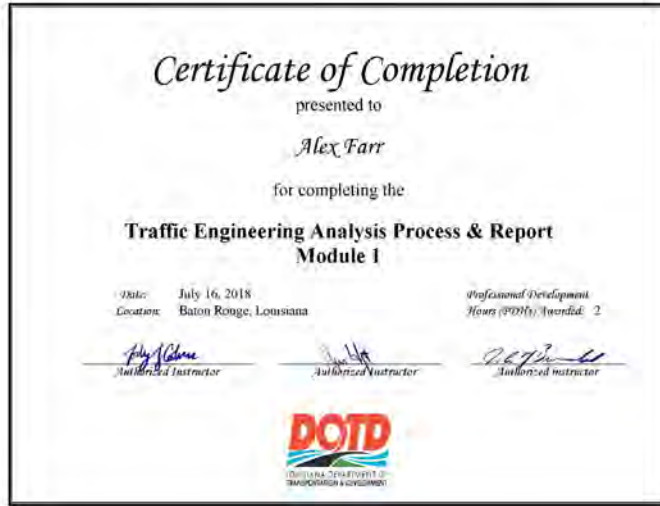
Firm(s) ALL FIRMS MUST BE REPRESENTED IN THIS TABLE	Past Performance Evaluation Discipline(s)	Contract Number and State Project Number	Project Name	Remaining Unpaid Balance
Sigma Consulting Group, Inc. (A Waggoner Company)	Road	unavail., H.004791	Belle Chasse Bridge and Tunnel Replacement	\$5,307
		44-18646, H.004100	I-10: LA 415 to Essen Lane on I-10 and I-12	\$420,707
		44-19379, H.013797	LA 30: EBR PL - I-10 (Environmental Assessment)	\$86,020
		44-19010, H.010652	LA 73: US 61 (Airline) - Essen Lane	\$0
		44-19010, H.010116	LA 1088: Soult and Trinity Roundabouts	\$41,873
		44-24084, H.009300	CMAR Contract for Hooper Road Widening (LA 3034 - LA 37)	\$58,275
	Bridge	44-19338, H.012061	LA 1: Bayou Moreau & Lateral W15#7A Bridges	\$0
		44-19338, H.012565	LA 963: Little Redwood & Redwood Cr Bridges	\$17,246
		44-19338, H.012891	LA 300: Bayou LaLoutre Bridge	\$5,352
		44-19338, H.014213	LA 700: Indian Bayou & Grand Marais Bridges	\$25,026
		44-19338, H.014215	LA 20: 40 Arpent & Drain Canal Bridges	\$84,018
		44-19338, H.014216	LA 682: Norris Canal & Creek Bridges	\$35,371
		44-19338, H.014241	LA 10: Mill Creek Bridge	\$7,834
		44-19338, H.014251	LA 422: Bridge over Unnamed Creek	\$42,642
		44-19338, H.014252	LA 1054: Tyner Creek Bridge	\$4,808
		44-19338, H.014253	LA 421: Thom Creek Bridge	\$4,394
		44-19338, H.014254	LA 955: Bridges Near Clinton	\$58,363
		44-19338, H.014256	LA 952: McKowen & Beaver Creek Bridges	\$163,432
		44-19338, H.014257	LA 68: Karrs Creek Bridge	\$78,944
		44-19338, H.014257	LA 975: Creek Bridges	\$0
44-19338, H.014278	LA 85: Patout & Drain Canal Bridges	\$6,393		
44-19338, H.014279	LA 35: Drainage Canal Near Lawtell	\$47,859		
44-25041, H.015429	Carroll Avenue Over Colyell Creek	\$66,325		

Continued - Sigma Consulting Group, Inc. (A Waggoner Company)		44-25041, H.015430	Hood Road Over Colyell Creek	\$104,760
		44-25041, H.015431	Sawmill Road Over Creek	\$97,000
		44-25041, H.015432	M. Williams Road Over Spring Creek	\$112,520
		44-25041, H.015433	George Jenkins Road Over Barrys Creek	\$112,520
		44-25041, H.015434	Mitch Road Over Peters Creek	\$70,415
	Survey	4400023782, H.013429	Entity Contract for Downtown Thibodaux Sidewalks	\$1,355
	CE&/OV	4400004666, H.002868	Ambassador Caffery & US 90 Interchange Construction Support	\$37,988
		4400019680, H.013897	Owner Verification Services For College Drive Flyover Ramp I-10/I-12 West	\$34,615
	Environmental	4400008711, H.004526	Leeville - Golden Meadow (Ph. 2 Permits)	\$205,175
Vectura Consulting Services, LLC	Traffic	4400017293, H.010616	I-20: LA 544 Overpass Replacement	\$74,429
		4400005484, H.005168.2	New Orleans Rail Gateway Avondale EA	\$92,995
		H.004791	Belle Chasse Bridge & Tunnel Replacement PPP	\$14,740
		4400021519, H.012030.5	KCS RR Overpasses HBI	\$572
		4400023075, H.013522	S. Lewis Street Widening	\$7,499
		4400018271, H.014746.5	LA 383 Stage 0 Corridor Study	\$ 22,388
		4400018271, H.011242.1	LA 384 (Big Lake Rd to McNeese St)	\$ 31,827
	CE&/OV	4400020018, H.007160	EBR Computerized Traffic Signal, Ph VB	\$33,910
	ITS	4400016364, H.015136.4	Northshore Regional ITS Architecture Update	\$11,421
		4400017922, H.012845.1	C/AV Team and Working Group Support	\$13,949
44000020058, H.011507.1		Monroe Phase 3 SEA	\$29,217	

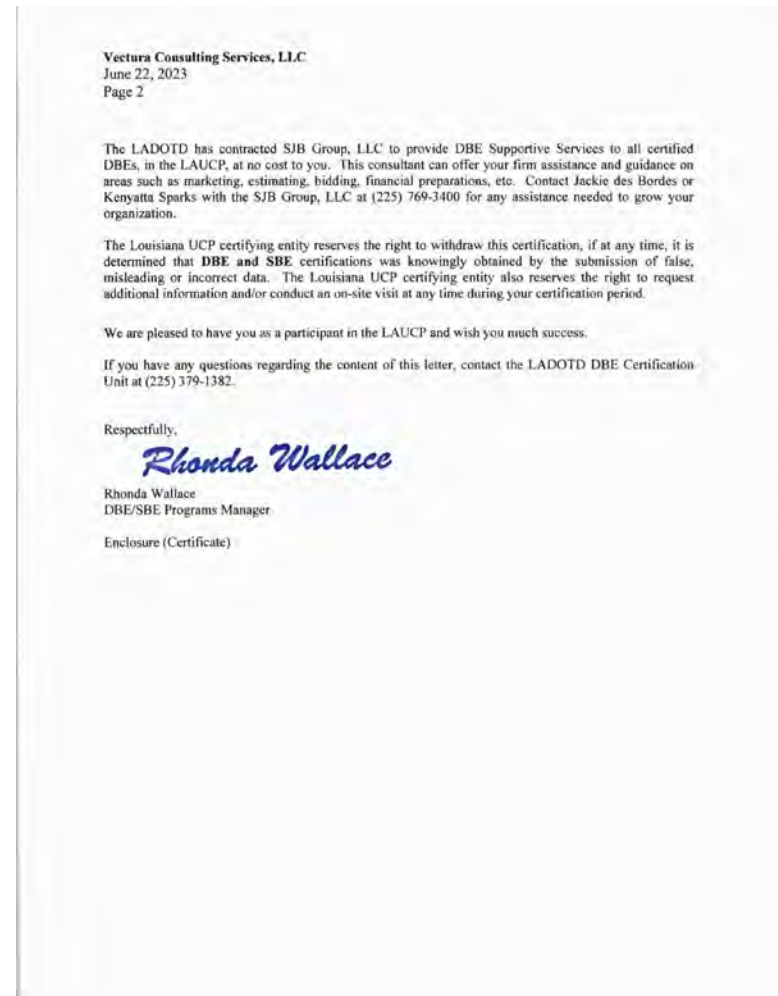
20. **Certifications/Licenses:**



20. Certifications/Licenses:



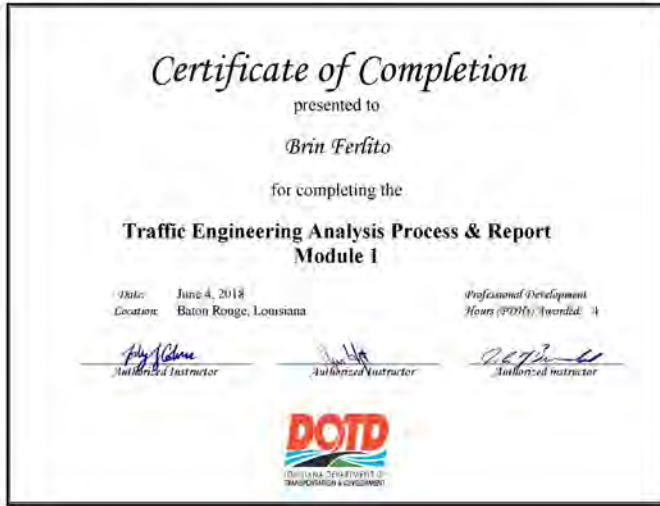
20. Certifications/Licenses:



20. Certifications/Licenses:



20. Certifications/Licenses:



20. Certifications/Licenses:



21. QA/QC Plan:

If the advertisement requires submission of QA/QC plan, include it here. Otherwise, leave this section blank.

SIGMA CONSULTING GROUP, INC.

Quality Control / Quality Assurance Plan for Bridge Design Projects

**Contract for LA 44: Pelican Point Roundabout
and Widen
Contract No. 4400028434**

*This document is a supplement
to Sigma's Quality Control / Quality Assurance Plan
dated August 2020*

January 2024

CONTENTS

I.	Introduction	1
II.	References	1
III.	Definitions	1
IV.	Project Procedure	
	A. Develop of Project Design Criteria	3
	B. Design Process	3
	C. Checking Process	4
	D. Quality Assurance/Review Process	6
	E. Responsibilities of the EOR	7
	F. Responsibilities of the LA DOTD Bridge Task Manager	7
V.	Plan Development	8
	Appendix	9

Sigma Consulting Group, Inc.

QA/QC Plan for Bridge Design Projects

I. Introduction

At Sigma Consulting Group, we emphasize good communication as the key component in achieving excellence. This communication begins with our firm's mission, and continues with goals, company procedures, and then periodic feedback for making changes.

The procedures are what guide our day to day quality efforts. They are organized into company procedures and project procedures. Our method for assuring quality over the long term is addressed in our mission, quality goal, and feedback.

This document establishes the minimum requirements for the Quality Control (QC) and Quality Assurance (QA) for all LA DOTD bridge design projects, with specific references to this project.

Sigma Consulting Group, Inc. is fully responsible for the QC/QA of our work, and the work of all subconsultants. All subconsultants are to adhere to these guidelines also. **LA DOTD is not responsible for performing QC/QA of Sigma's or their subconsultants' work.**

II. References

- Quality Control/Quality Assurance Plan. 2020. Sigma Consulting Group, Inc.
- LA DOTD Bridge Design and Evaluation Manual, Part I - Policies and Procedures, Chapter 3: Policy for QC/QA
- Policy on Quality Control and Quality Assurance. 2012. Louisiana Department of Transportation and Development, Bridge Design Section.
- Guidance on Quality Control and Quality Assurance (QC/QA) in Bridge Design. 2011. Federal Highway Administration.

III. Definitions

Quality Control (QC) - Procedures of checking the accuracy of the calculations and consistency of the drawings, detecting and correcting design omissions and errors before the design plans are finalized, and verifying the specifications for the load-carrying members are adequate for the service and operation loads.

Quality Assurance (QA) - Procedures of reviewing the work to ensure the quality controls are in place and effective in preventing mistakes, and consistency in the development of bridge design plans and specifications.

Sigma Consulting Group, Inc.

QA/QC Plan for Bridge Design Projects

Designer - An individual directly responsible for the development of design calculations, drawings, specifications and contract documents and review of shop drawings related to a specific bridge design with a level of technical skills and experience commensurate with the complexity of the subject structure or structures being designed. The designer must be licensed by the State of Louisiana as an engineer intern or a professional engineer.

Detailer - The detailer is the individual directly responsible for the creation of CAD drawings.

Checker - An individual responsible for performing a full technical review of the structural design calculations, drawings, specifications and contract documents. The checker must be licensed by the State of Louisiana as an engineer intern or a professional engineer. If the designer is an engineer intern, then the checker must be a professional engineer.

Reviewer - An individual responsible for performing QA procedures for assuring that QC procedures have been performed. The reviewer must be licensed by the State of Louisiana as a professional engineer and have substantial experience in the design of similar structures.

Engineer of Record - An individual responsible for all bridge structural aspects of the design of the structure including the design of all of the bridge's systems and components. The EOR must be licensed by the State of Louisiana as a professional engineer and must have commensurate experience in the design of similar structures. The EOR can be the designer, the design checker, the reviewer, or the supervisor/team leader who is directly involved in the project development. The Engineer of Record normally seals and signs the final contract plans and specifications.

	Designer	Checker	QA /Review	EOR
TS&L Bridge Plans	Olivier, PE Bourg, EI	Gonya, PE Bankston, PE	Windmann, PE	Windmann, PE Gonya, PE

Sigma Consulting Group, Inc.

QA/QC Plan for Bridge Design Projects

IV. Project Procedure

A. Development of Project Design Criteria

Design criteria (bridge) must be developed and submitted for LA DOTD for review and approval. Though the design criteria may change throughout the project, a current list of the criteria shall be maintained at all times. Any design assumptions made, or design exemptions obtained shall be listed in the design criteria and referenced in the calculations and drawings as appropriate. A design criteria checklist is included in the Appendix.

B. Design Process

During the design process, the designer must follow the design criteria established for the project. A bridge type, size and location (TS&L) study must be developed first and approved by the supervisor or team leader prior to proceeding with the design of structural components. The design calculations shall be organized and maintained in a standard calculation book format.

- The designer has the responsibility to ensure that his calculations or drawings have been checked and signed by a checker.
- All project calculations will be filed as directed by the Project Manager. Except for very small projects, the calculations should be maintained in a 3-ring binder/folder with a Table of Contents and page numbers.
- All calculations will be prepared neatly. These calculations will always be checked by an independent checker and signed by both the designer and the checker. Calculations performed on CAD, such as quantities, will be documented on printouts or drawings (preferably half-size), and checked independently. If such documentation is not readily available from the software, calculations shall be manually documented or performed using other methods.
- The calculations or drawings should be readable without the designer explaining the content. It may be necessary for the designer to explain the philosophy behind the design to the checker.
- All assumptions used in the calculations shall be listed, verified and approved by the Project Manager. Where code dictates a requirement, the code, code date, section number and applicable table will be listed. Where information is obtained from other calculations, disciplines or reference material, the source shall be identified.
- During development of design calculations, the designer should keep in mind that proper sketches and details should be presented as others may use these calculations in developing construction drawings.
- Computer programs (both commercial and in-house) are a great time-saver to the design process. However, it is the designer's

Sigma Consulting Group, Inc.

QA/QC Plan for Bridge Design Projects

responsibility to be familiar with the program, and its design assumptions and internal design routines and methods to the extent that he could duplicate a given result.

- Compute and document input for the computer programs, as you would design calculations. These should be attached to the computer printout when passed to checking. It is not necessary to copy (for checking) lengthy computer printouts.
- The checking of calculations shall be on a copy of the original and shall be retained with the original. After all corrections have been made, the checker shall sign the original. The checker shall sign every page of the calculations to ensure that pages are not added to the end of what he checked. No erasing is permitted after the checker has signed the original calculations.
- All drawings prepared in CAD will be plotted by the technician and checked for correctness and accuracy (by the technician) prior to delivering the drawing to the designer/engineer. It is the CAD technician's responsibility to ensure that the drawing is drawn correctly. The drawing designated as the check print should be in the format of the final deliverable.
- As a general rule, all engineers and technicians should review the plans, specifications and calculations during the development process not only for accuracy, but also that the elements fit together. This is especially true with inter-discipline projects. Checks should also be made on how revisions to one element of a project might affect other portions of the project.
- Each submittal should include a QC/QA certification that the process is being followed and the plan documents and information presented is accurate and meets the requirements of the submittal.

C. Checking Process

The checker may begin the checking process at the completion of the entire design/detail process or may check components of the designer/detailer's work as it is completed. Likewise, the checker may provide feedback at the completion of the entire checking process or as each component of check is completed.

During the design check process, the design checker must verify the accuracy of the designer's calculations, pay items, quantities, special provisions including Non-Standard items, and cost estimate. Regardless of the checking method employed, the designer's calculations are the calculations of record and must be updated to correct any errors or omissions discovered by the design checker. The design checker should also ensure that the drawings adequately and accurately present the design information.

During the detail check process, the detail checker must ensure the drawings are in accordance with the design information and CAD standards. All dimensions and quantity calculations must be verified. The following stamp should be applied to every Check Print drawing.

Sigma Consulting Group, Inc.

QA/QC Plan for Bridge Design Projects

No: _____	Date: _____
CHECK PRINT	
Dwg. Checked against calcs. And calc check confirmed	
by: _____	Date: _____
Checked: _____	Date: _____
Backchecked: _____	Date: _____
Corrected: _____	Date: _____
Verified: _____	Date: _____

Any discrepancies that arise should be resolved between the designer/detailer and the checker, and the calculations and plan details should be corrected accordingly. If the designer/detailer and the checker are unable to resolve their discrepancies, the issue should be brought to the attention of the supervisor or team leader.

The checker shall be free to follow his own procedure for checking; however, the following must be adhered to regardless of his/her other methods.

- The checking of calculations shall be on a copy of the original and shall be retained with the original. After all corrections have been made, the checker shall sign the original. The checker shall sign every page of the calculations to ensure that pages are not added to the end of what he checked. No erasing is permitted after the checker has signed the original calculations.
- Checker is to show all additions or changes (noted in red) in sufficient detail for a draftsman’s complete understanding. Avoid verbal instructions. Checker should initial and date each drawing as it is checked.
- If reasons for errors are not clearly apparent, consult draftsman before making change.
- Various checklists (both department and client) exist and should be used where applicable.
- To minimize the number of marked-up drawings being circulated, only the stick file or a clearly designated “Check Print” set should be used for corrections.
- The checker of both the calculations and the drawings should compare the two. They must match.

Sigma Consulting Group, Inc.

QA/QC Plan for Bridge Design Projects

- After drawings have been checked, notify disciplines concerned, of additional requirements, omissions, or changes.
- After checking is completed the check print should be returned to the original designer for his/her back-check and pick-ups. The original designer shall initial and date each sheet as back-checked.
- Any markups not completely addressed shall be indicated and discussed with Checker before the Back-Check print is returned.
- After Back-Check pickups are made, the drawings should be returned to the checker for final review. The CAD technician shall initial and date each sheet as corrected. After a final review, the checker shall initial and date each sheet as verified.
- All changes or approvals to checked design package shall be color coded as described in the Sigma drafting standards. Below is a list of colors and intent for use:

YELLOW	indicates checked and complete
RED	indicates addition
GREEN	indicates "remove the item in green"
BLUE	indicates checkers comments are picked-up and complete
BLACK	to be used to write specific instructions or comments
CIRCLED AREA	indicates "not satisfactory" with a pencil comment explaining why, be specific.

The drawings should be locked when the checking process begins and then locked again when complete. This keeps unauthorized changes from occurring and ensures that the entire project team is using accurate and up-to-date information.

After the designer, design checker, detailer, and detail checker are satisfied with the state of the design calculations, drawings, special provisions, and cost estimate as appropriate, the design and detail check shall be considered complete. This shall be no later than the 95% Final Plans stage.

D. Quality Assurance/Review Process

Upon completion of the design and detail check, the designer is responsible for preparing a QA information package. A QA information package checklist is included in the Appendix. This QA package is given to a reviewer; the reviewer is the engineer responsible for ensuring that the QC process was followed and is complete.

During quality assurance process, the reviewer shall perform a cursory review of all documents in the QA information package submitted by the designer. This review should focus on the constructability of the plan details; areas of critical structural importance; areas where, based on

Sigma Consulting Group, Inc.

QA/QC Plan for Bridge Design Projects

the reviewer's experience, mistakes may be typically found; and areas that may be new to the design practice. The reviewer may, but need not, produce independent calculations to verify submitted information. The reviewer shall provide feedback to the designer and resolve all issues. The QA process shall be completed no later than the 98% final plans stage. At this point, the QC/QA certification (included in Appendix) shall be signed by the designer, design checker, detailer, detail checker, and reviewer.

E. Responsibilities of the EOR

- Ensure the QC/QA certification is signed by all responsible parties. Ensure the geotechnical design information shown on bridge plans is co-stamped by a Geotechnical Engineer and the hydraulic information shown on bridge plans is co-stamped by a Hydraulic Engineer.
- Assemble design calculations from all designers, finalize the calculation book, and seal the cover sheet of the calculation book.
- Ensure the names of the designer, design checker, detailer, detail checker, and reviewer are correctly shown on the title block of each plan sheet. Stamp all plan sheets or designate a designer, design checker, or reviewer who shall be licensed by the State of Louisiana as a professional engineer to stamp the sheets developed under their supervision. The EOR must stamp the general note sheets.
- Ensure all special provisions are accurately shown on the construction proposal. The special provisions are typically stamped by the Specification Engineer as part of the construction proposal; however, if the Specification Engineer is not qualified or not willing to stamp the special provisions, the EOR must stamp these provisions.

F. Responsibilities of the LA DOTD Bridge Task Manager:

The LA DOTD bridge task manager will participate in the following:

- Initiate a design kick-off meeting as soon as the project is awarded to discuss project expectations, design criteria, submittal schedule, implementation of QC/QA plan document, as well as to become familiar with the consultant's design team members who are identified as the designers, design checkers, and reviewers.
- Review and approve design criteria and TS&L and ensure the design criteria is updated as the project progresses.
- Review consultant's submittals - **LA DOTD Bridge Task Managers shall not perform QC/QA of consultants' work.** However, they will selectively check the plans for constructability, consistency, and clarity.

Sigma Consulting Group, Inc.

QA/QC Plan for Bridge Design Projects

V. Plan Development

The following procedures help with our quality in the production of drawings and specifications:

- Use department-generated CADD standards and CADD drafting manual, as required.
- Each drawing has an automatic date stamp, along with a correct title block.
- Each drawing should always have a status stamp (Preliminary, For Review, For Approval, etc.) that also identifies the Engineer-of-Record.
- Dimensions and data should be shown only once, to reduce possible discrepancies.
- Cross referencing should be as simple and as clear as possible.
- Coordinate the drawings and specifications with each other.
- Use LA DOTD standard specifications and standard plans when appropriate.
- When specifying products, use the LA DOTD accepted Qualified Products List when possible.
- If the Qualified Products List does not contain the desired product, document the decision process for approving a product along with any relevant codes.
- Document for the files: relevant communications, alternatives, and reasoning for picking an alternative.

Sigma Consulting Group, Inc.

QA/QC Plan for Bridge Design Projects

Appendix

- Design Criteria Checklist
- QA Information Package Checklist
- Consultant Submittal QC/QA Certification
- QC/QA Certification (Final)

Sigma Consulting Group, Inc.

QA/QC Plan for Bridge Design Projects

Appendix Design Criteria Checklist

Design criteria for each project shall include, but not limited to, the following sections:

Cover sheet

The following information must be included on the cover sheet:

- LA DOTD project number
- Project name
- Revision date
- The Supervisor or Team Leader's signature and date

Governing Design and Construction Specifications and Other References

A list of governing design and construction specifications and other references used for the project shall be included in this section. The edition number, interim revisions, and/or publication date must be specified for each reference.

Design Assumptions and Design Exceptions

All design assumptions and design exceptions received must be included in this section along with supporting documents.

General Information

The general information as listed below should be included in this section:

- Bridge information (no. of bridges, bridge clear width, length, no. of lanes, lane width, shoulder width, etc.)
- Road information (roadway classifications, design speed, traffic data, etc.)
- Vertical datum
- Vertical and horizontal clearances
- Hydraulic design information (design water elevations, scour depth and scour elevation, etc.)
- Other relevant information

Sigma Consulting Group, Inc.

QA/QC Plan for Bridge Design Projects

Hydraulic Design Criteria

All hydraulic design criteria (design year, design water elevations, scour depth and scour elevation, etc.) shall be included in this section and the information shall be provided by the Hydraulic Engineer.

Design Factors

The ductility factor, redundancy factor, and operational importance factor shall be listed in this section.

Design Loads

All design loads (dead load, live load, wind load, thermal loads, vessel collision loads, seismic load, wave loads, etc.) used for the project shall be included in this section.

Limit States

All applicable limit states for this project shall be listed in this section.

Bridge Barrier

The design criteria, types, and test levels for bridge barriers shall be listed in this section. Standard plans and special details should be listed if they are utilized.

Guardrail

The design criteria, types, and test levels for guardrails shall be listed in this section. Standard plans and special details should be listed if they are utilized.

Approach Slab

Design criteria for approach slab shall be included in this section. Standard plans and special details should be listed if they are utilized.

Deck and Deck Drainage

All design criteria for deck and deck drainage design shall be included in this section. Standard plans and special details should be listed if they are utilized.

Bearing

All bearing types and design criteria for each bearing type shall be included in this section. Standard plans and special details should be listed if they are utilized.

Joint

All joint types and design criteria for each type shall be included in this section. Standard plans and special details should be listed if they are utilized.

Sigma Consulting Group, Inc.

QA/QC Plan for Bridge Design Projects

Superstructure

All superstructure types and design criteria for each type shall be included in this section. Standard plans and special details should be listed if they are utilized.

Substructure

All substructure types and design criteria for each type shall be included in this section. Standard plans and special details should be listed if they are utilized.

Piles and Drilled Shafts

All pile types, sizes, and structural design criteria shall be included in this section. Standard plans and special details should be listed if they are utilized.

Geotechnical Design

All geotechnical design criteria shall be included in this section. Standard plans and special details should be listed if they are utilized.

Mechanical Design

All mechanical design criteria shall be included in this section if applicable. Standard plans and special details should be listed if they are utilized.

Electrical Design

All electrical design criteria shall be included in this section if applicable. Standard plans and special details should be listed if they are utilized.

As-Designed Bridge Rating Criteria

All as-designed bridge rating criteria shall be included in this section.

Software

All software used for design and check shall be included in this section.

Sigma Consulting Group, Inc.

QA/QC Plan for Bridge Design Projects

Appendix
QA Information Package
Checklist

Project No.:
Project Description:

- _____ Calculation Book

- _____ Plans

- _____ Special Provisions

- _____ Cost Estimate

- _____ Other Documents _____

Sigma Consulting Group, Inc.

QA/QC Plan for Bridge Design Projects

Appendix
Consultant Submittal QC/QA Certification

Project No.:
Project Description:

I, the undersigned Supervisor or Team Leader for this project, certify that the information included in this submittal has been prepared in accordance with the QC/QA plan documents and the information presented is accurate and meets the requirements of this submittal.

Submittal Description

Supervisor or Team Leader Name

Signature

Date

Sigma Consulting Group, Inc.

QA/QC Plan for Bridge Design Projects

**Appendix
QC/QA Certification**

Project No.:

Project Description:

We, the undersigned designers, detailers, checkers and reviewers for this project, have reviewed and accepted the calculations, plans, quantities, special provisions, and cost estimate prepared for the project. We certify that the work for which we are responsible has been completed in accordance with the LA DOTD Bridge Design Section policy on QC/QA.

Team Members	Name	Responsible Plan Sheets	Responsible Special Provisions	Signature
Designers				
Design Checkers				
Detailers				
Detail Checkers				
Reviewers				
Geotechnical Engineer				
Hydraulic Engineer				

22. Sub-consultant Information:

Firm Name (as registered with Louisiana's Secretary of State)	Address	Point of contact and Email Address	Phone Number
Vectura Consulting Services, LLC	4467 Bluebonnet Blvd., Suite A, Baton Rouge, LA 70809-9639	Sheelagh Brin Ferlito, PE bferlito@vecturacs.com	225.223.6685

Vectura fulfills the DBE requirements as stated in the advertisement.

23. Location:

If location is an evaluation criterion for this advertisement and the prime consultant intends to establish a local presence, describe the plan for doing so. Otherwise, leave this section blank.



A WAGGONER COMPANY

Providing Sound Solutions & Innovative
Ideas to Today's Engineering Challenges

SIGMACG.COM

